



AMERICAN CINEMATOGRAPHER

THE MOTION PICTURE CAMERA MAGAZINE

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September, 1938

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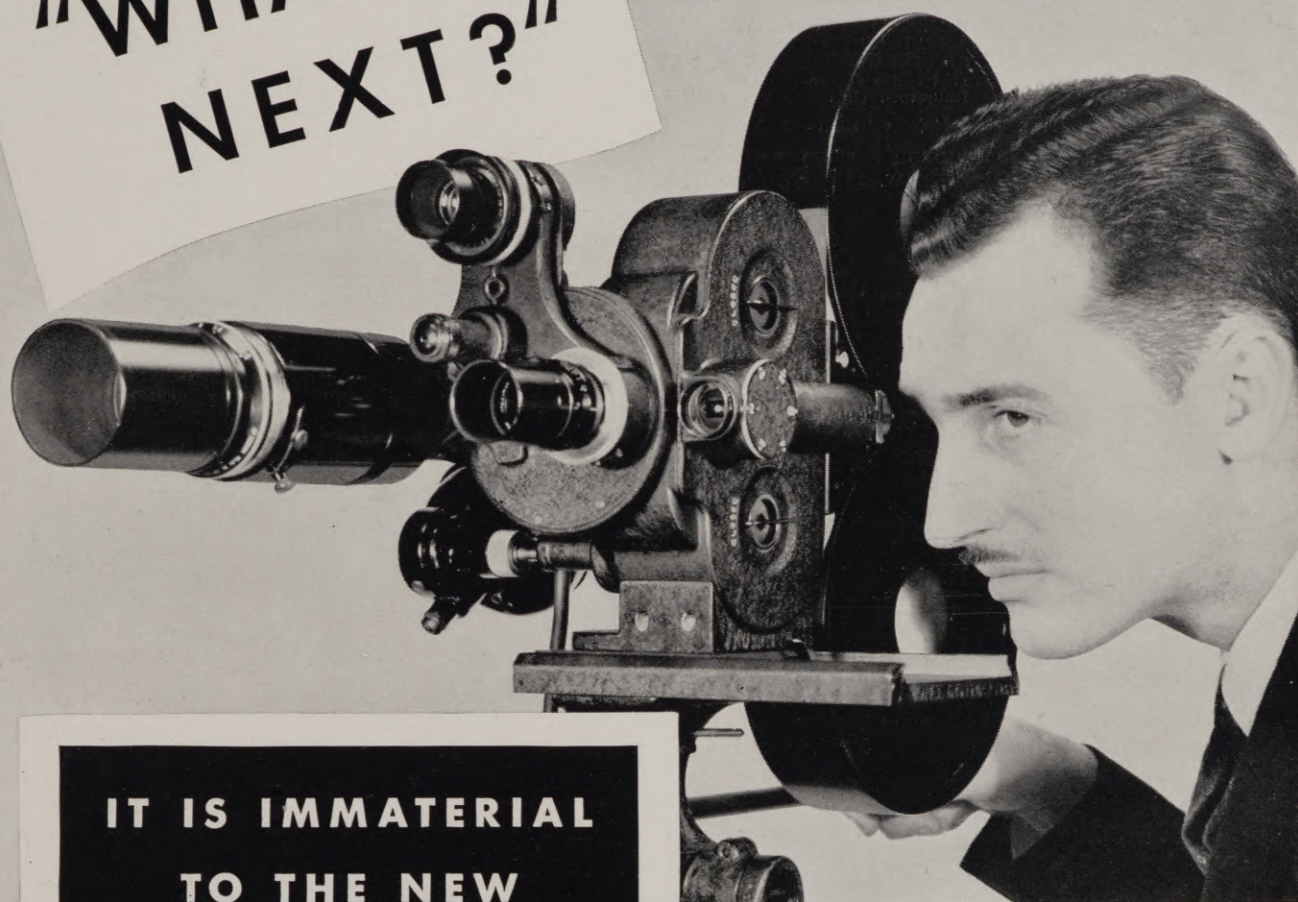
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The Front Cover

THE face on the front cover is that of Norma Shearer as she is seen in MGM's "Marie Antoinette." That story is one of tragedy, a tragedy that clings to the heroine from the day of her marriage to the heir of the French throne to that of her death on the guillotine.

The characterization of Marie Antoinette marks the return of Miss Shearer to the screen from which she retired following the death of her husband, Irving Thalberg. She was a great actress when she left us. But she comes back to us truly greater.

Richard Mansfield when reproached for the mercilessly abusive treatment in rehearsal he was bestowing on a young woman replied that no one who had not experienced suffering could portray it. The young woman

in question previously had never experienced suffering.

It is submitted "Marie Antoinette" is a rare subject for transfer to Dr. Robert Carter's metal film, if that may be accomplished through duplication,—and at this distance we believe it could be done. Then succeeding generations might see for themselves what the motion picture industry in 1938 could achieve in the way of recording history of a hundred and fifty years earlier.

The production was photographed by William Daniels, A.S.C., and for the quality of his work the Hollywood Reporter poll for July gave him the photographic palm. The photographer responsible for the still picture here reproduced is Laszlo Willinger.



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Dr. Carter Answers Vital Queries Regarding Metal Film Development

Laboratory Experts Astonished at Developing and
Fixing Speed—Absence of Grain in Emulsion Noted
—Splicing and Editing as Simple as Cementing
Celluloid—No Major Change in Projection
or Other Equipment—16mm Progress
on Identical Plane as 35mm's.

By **DR. ROBERT W. CARTER**

of the Taylor-Sloane Corporation of New York

III.

IN THE last two articles we confined ourselves largely to the development of metal film up to the year 1937. The two articles brought in such widespread and important inquiries that we have been able to form a definite opinion regarding the keen interest in metal film and its projection.

The questions range from highly technical points regarding the reproduction of sound from metal

film to practical points about speed of exposure, development and fixing of the image on metal.

Tests in the laboratory of the International News Service with positive emulsion gave printing time ranging from 1/10 of a second to 1/2 a second in standard photographic printing equipment.

Technical experts at the laboratory were astonished at the speed of developing and fixing. By actual timing the entire printing process took exactly four minutes. We refer of course to a contact print in a standard printing frame.

The four minutes was divided into one minute for loading the frame, 1/2 second for exposure, 6 seconds in the developing bath, and the balance of the time was taken up in fixing, washing and drying with electrical drying unit. The developers used were standard metol and hydro-quinone. In secondary tests we used amidol and in fixing alcoholic solutions of hypo and alum.

Fine Grain on Metal Prints

These printing tests took place in series over a period of three weeks. Critical examination of the metal strip indicated no chemical reaction has taken place to affect the metal or the printed image. It seemed a difficult matter to fog the emulsion even with a 60 watt Ruby lamp.

All the operations in the darkroom were carried out under the same light that the laboratory uses for making bromide paper prints. The phenomenon that impressed the technicians in the photographic laboratory was the absence of grain in the emulsion on metal.

The print finished in less than four minutes showed much less grain than the standard print on paper developed in fine grain developers, the latter print taking over 30 minutes.

Negative on Metal Film

It becomes obvious that for metal the mind has to become oriented to appreciate this new medium in photography. We have developed negative and positive emulsions that have a high gamma infinity; that are free from fog, even under the lighting conditions described, and have as high velocity content as cellulose emulsions.

The advantage of such emulsions for motion pic-



Dr. Robert W. Carter

ture negative will more than offset any difficulty that may be experienced in printing.

Many of our correspondents were worried about editing negatives on metal. We have worked out a simple method for splicing that is not more troublesome than the method used for cementing cellulose film.

When the negative is made and edited it will be permanent, fadeless and indestructible. The original metal negative will be preserved in the usual manner. Duplicates are made with standard optical printing by reflected light.

Scientific Proof

To offset another misconception we print herewith the actual reflection tests. This test established the fact that the metal ribbon has a higher reflection factor and is more effective for optical printing than printing by transmitted light through cellulose film. We believe that this should save the industry thousands of dollars on insurance rates and storage costs and fire hazard.

Copying Books on Metal Film

We would like the many readers of the Cinematographer who are interested in microfilm, manuscripts, books, etc., to know that we will be able to put images on both sides of our metal film. This means that the reproduction of books such as the Encyclopaedia Britannica with its 25,000 pages, 8½ by 11½ inches, weighing 126 pounds and occupying a cubic area of 4036 cubic inches can be microfilmed on metal to weigh 6 ounces and occupy a space of 10 cubic inches.

To the many who inquired about the permanent reproduction of programs at radio stations we are pleased to report that this may be done very economically on narrow strips of metal film giving accurate tonal reproduction in the higher cycles.

This record of course will be permanent, fadeless and economical. We have already constructed a simple reading machine for metal film.

Metal Film for 16mm.

We must apologize to the many readers interested in 16mm projection. In our articles we have neglected to mention this important field. We already have emulsions developed for microfilm on metal that will give superior photographic images with 16mm projection.

We are confident that when production is commenced the price will not exceed cellulose film with the added features of strength, permanence and positive non-inflammability. The technique for developing will give the same speed and the use of the film in the projection machine.

We believe that 16mm projection machines for the future will be fitted with our attachment for opaque projection.

For schools, auditoriums, churches, etc., metal film will mean absolute safety, superior projection, low costs for the film and unusual economy because of long life and permanence.

Vital Questions on Sound

To return to the major motion picture field, the greatest number of questions centered on the quality of the image. Sound constituted the second leading question, and the third most important was, "What changes of equipment, technique, etc.?"

To the first question we should explain that an accurate photographic sound track on a smooth fine-

grained highly reflective surface is a finer medium for sound reproduction than cellulose.

In the cellulose film the light is refracted in various directions while passing through the cellulose stock. It is well understood that background noises and lack of definition in sound is the basic reason why cellulose acetate film is not in general use even with its safety factors.

With the metal film the beam of the exciting lamp is concentrated on the sound track at an angle of 25 degrees. The reflected light from the one mill slit passes through two condensing lenses to the photo electric cell. The rest of the sound system is standard equipment.

The sound track on metal gives a clear sound reproduction free from fuzziness and distortion. The fact that the light beam is reflected direct from the sound track without any interference is the reason for superior sound reproduction in the higher cycles.

A study of the last article together with the reproduction of the reflection test answers the question how first class images are secured on the screen. It must be remembered that the highlights of the picture are the reflected light from the metal surface.

This surface may give specular reflection or a diffused reflection, in the same manner that projection screens give specular or diffused reflections. The surface of the metal may be treated to give both types of reflection.

The shadow of the picture is the absence of reflected light in the same manner that the shadow is the absence of light by transmitted projection. We have thus only the fine gradations of tone between the highlight and the shadow for consideration.

In theory it would appear that we would lose detail because of the fact that the light must pass through the photographic emulsion to the reflecting surface and then back through the emulsion.

It was supposed that this double passage of the light through the emulsion would affect our reproduction of the middle tones. We find in actual projection that the middle tones are rendered as accurately on the screen from opaque film as from cellulose film.

Scratching

The question of scratching the image has occurred frequently. We might briefly say that the image may be hardened to any extent on metal, as the chemical reaction is only concerned with the emulsion, the metal not being affected by this group of chemicals.

It should also be made known that tough transparent baking lacquers may be used on metal without affecting projection qualities. With the projection gate properly adjusted we have not experienced scratching after prolonged use with metal film.

Optical System for Projection

Some of your readers will still be anxious to know what optical system was finally adopted in our first machine. We have reduced this to two reflecting surfaces plus the objective lens. This was only possible because the metal will stand high temperature together with a mirror that has withstood the direct rays of the lamp for many operating hours without deteriorating.

In short, the light is reflected from the carbons direct to a mirror, from the mirror to the metal film at the projection gate, then from the lens to the

screen. We have thus eliminated the two condensing surfaces.

The mirror that we use gives us a reflection of 90 per cent. The actual light reaching the film is thus much higher than the light passing through the cellulose film. The shutter and other factors on the machine are standard.

Color

It should be noted here that high intensity of light reflected upon the film predicts unusual reproduction for color. We have projected some color film, and we believe that with the cooperation of this section of the industry we will be able to show results with metal color film superior to nitrate film with the added features of an almost third dimension effect.

We are preparing emulsions in the laboratory for experimental three-color film on 35mm film.

In conclusion we believe that we have established for all time the fact that metal film and the projection of metal film is now an accomplished fact.

We submit that we have proved beyond any doubt the efficiency and economy possible in metal film.

We realize that our path has been a lonesome one

and our progress has been slow and painful. The birth of our research dates further back than the inception of the motion picture industry. We have had little or no encouragement from scientists or technicians in our work.

We feel that we have made a major contribution to the technical development of a great industry. We are also justified in believing that we are making a permanent contribution to civilization with the perfection of a dependable permanent photographic film record.

The name of the first small company formed nearly twenty years ago was "Permanent Records Corp." We have not swerved from our first objective. We set out to develop a process for making permanent records on metal; whether this record may be a film for motion pictures or the reproduction of the lectures by Dr. Einstein it did not matter. The final goal was the same in either case.

The permanent reproduction of a photographic image on metal at a price compatible with modern requirements marks the end of our research. The commercial development and exploitation we must rest in other hands.

What Microphotography Is Doing to Make Records for Coming Ages

THE story of the restoration of historic American sites, accomplished with the aid of microphotography—the new science which permits the photographic preservation of priceless manuscripts and records—is told in the current issue of the Journal of Documentary Reproduction in a report by Alvin P. Stauffer, chief of the Research Division, Branch of Historic Sites and Buildings of the National Park Service. The Journal is published quarterly by the American Library Association, Chicago.

The connection between a national park and microphotography might seem far-fetched, if it were not for the fact that the service has found microfilming invaluable in collecting and preserving historical and archeological material, both written and printed.

The Service, Mr. Stauffer writes, is now able to obtain complete, accurate and permanent records of source data in a more satisfactory manner than with the earlier typewritten or longhand transcriptions.

Legibility Enhanced

In investigating Revolutionary sites, Spanish missions and other remains of the Colonial period, researchers have been able to reproduce seventeenth and eighteenth century documents more legibly on film than their stained and faded condition might otherwise permit.

One project now under way involving 100,000 negatives is undertaking to gather in one place widely scattered

material relating to the military operations at Yorktown in 1781.

The tremendous job of preparing a photographic inventory on microfilm of no less than 50,000 art objects in the study collection of the Pennsylvania Museum of Art in Philadelphia is described in detail in this issue of the Journal by Paul Vanderbilt, museum librarian, and Howard Cadwallader, technician.

Not only has this revolutionary method made it possible to produce needed photographic records with a high degree of efficiency but the authors foresee the possibility of a national micro-inventory of all art objects in American museums.

The fascinating task of recording a complete cross section of our civilization to be preserved at Oglethorpe University in a "crypt of civilization" for posterity 6,000 years hence is related by T. K. Peters, archivist at the university.

All documents, books and photographs, motion picture and sound records are being reproduced on cellulose acetate film and on thin metal film to insure permanence. The university is also preparing a complete history of the United States in still and motion pictures.

"Every contingency has been carefully thought out and scientifically provided for," Mr. Peters points out. "Even the possibility that the English language may no longer be spoken has been visualized, and, by an ingenious device which will reconstruct 3,000 English

words, the people of the future may see and hear how we speak English today."

In a resume on the microphotography demonstration at the Paris Exposition Dr. M. Llewellyn Raney, director of University of Chicago libraries, announced that among honors bestowed by the French authorities, highest honors were awarded the American Library Association and the University of Chicago for the exhibit, and gold and silver medals to several organizations and individuals who participated. Filmed at the exposition were more than 15,000 feet, or 200,000 pages, of French revolutionary journals and many issues of *Le Temps*.

Employed by Census Bureau

"The Use of Microfilm in the Bureau of Census," by T. F. Murphy, chief statistician for publications and records, reports on the work of the government's largest statistical unit in preserving its ancient records, conserving space and keeping pace with modern developments in census work.

Irvin Stewart, chairman of the committee on scientific aids to learning, summarizes the results of surveys on the reading of microfilm. Essential features of wall type projectors are analyzed by Ralph H. Carruthers of the New York Public Library.

Other articles are: "Film Storage in Hospitals," by Stella F. Walker, medical statistician and librarian, Cook County Hospital, Chicago; "The Holbrook Microfilming Camera," by J. K. Holbrook, and "Notes on the Selection of Cellulose Acetate Film for Record Purposes," by B. W. Scribner, chief paper section, National Bureau of Standards.

Technical and news notes include reports of new devices, materials and new projects, lists of microfilm, and news of other activities in the world of microphotography.

As Standard as **THE AMERICAN MOVIE**

MONTH-AFTER-MONTH check-ups invariably show that the bulk of motion picture productions are filmed on Eastman Super X. Prime reason is consistently superlative photographic quality. Like the American motion picture itself, Super X is the world's standard of excellence. Eastman Kodak Co., Rochester, N. Y. (J. E. Brulattour, Inc., Distributors, Fort Lee, Chicago, Hollywood.)

EASTMAN *SUPER X*
PANCHROMATIC NEGATIVE

Shooting Strange Men and Scenes

Just Day's Work for Sid Wagner

A. S. C. Man Has Traveled World Around with His
Cameras, Suffered Fierce Cold at Night and
Great Heat by Day in Equatorial Kenya,
Known Thrill That Goes with Holding
Fast to Struggling Python and Felt
Hunger Accompanying Shipwreck

By GEORGE BLAISDELL

AT THE ladies' night at the home of the American Society of Cinematographers July 30 among those present were Mr. and Mrs. Sidney (Sid) Wagner. It was the first time either of the two had been within the walls of the building that for considerably more than a year and a half has been the home of the A. S. C.

For this seeming neglect to give at least a onceover to these spacious quarters there was a perfectly good alibi. During the greater part of the time the A. S. C. has been settled in its North Orange drive home Sid Wagner has been on the move. In fact he has been on the go around the world during the last four years.

In the comparatively long period he has been doing camera work for the studios he has covered all of Europe, much of Africa, the South Seas, the Philippines, Japan, China, Siam and India. In the Americas there have been Canada, Mexico and Cuba. At the end

of May for several weeks he stood by prepared at an hour's notice to jump for an aeroplane trip to the jungles bordering the Amazon 1400 miles from its mouth.

Instead of that, however, he was shunted by MGM to Nebraska with Director Norman Taurog, Spencer Tracy and Mickey Rooney and a big crew to make scenes for "Boys' Town," the story written around Nebraska's famous institution. That production, however, now is "in the box."

To bring this introduction up to the present writing (August 10) it was on the 4th of the present month this writer visited the cameraman at his home. There was no mention at that time of any away from home assignment. Yet it was only four days later we learned Sid Wagner was that day leaving with Director Richard Rosson for the East by plane to do preparatory work on MGM's "Great Waltz."

Seen Much Flying

There's much of that plane stuff in Wagner's everyday work. There probably have been well over forty thousand miles of it in the last year and a half. Yet he has found it a much pleasanter and more fortunate means of transportation than he has by sea—at least in one notable instance. But that's another story.

In all the wanderings possibly none has contained more interest for a man accustomed to strange scenes and hazards above the ordinary than the assignment to photograph the exteriors for Twentieth Century-Fox's "Stanley and Livingstone" in authentic locations in Africa.

It was in June of 1937 when the troupe of twenty technicians under the supervision of Mrs. Martin (Osa) Johnson and headed by Director Otto Brower headed for far off Africa. The script called for a journey over the thousand-mile-long path described by Henry Morton Stanley in his journal written in 1872 during his search for David Livingstone, lost ex-

plorer. Stanley was in the employ of the New York Herald.

Wagner took a plane at Southampton England, direct for Nairobi, near the east coast of the Dark Continent, as once Africa was known, but it is far from being as dark in the present generation. With him went a heavy load of camera equipment.

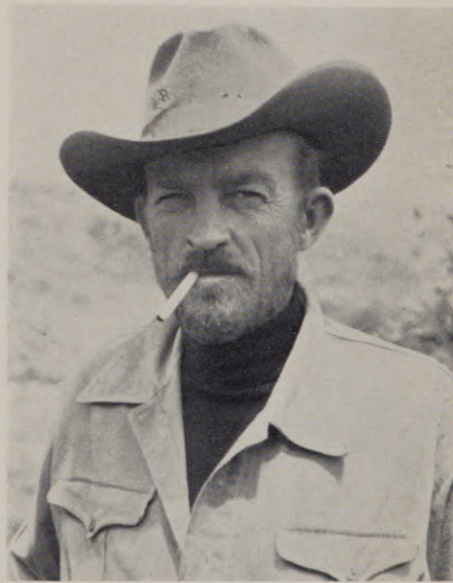
Crew Builds Crane

At Nairobi the expedition was outfitted. Studio wardrobe and property departments had passed up the usual practice of doing that on the lot. Clothing, canned foods, medical supplies and everything necessary were secured in the locale where they would be used.

While in Nairobi the crew built a portable crane, or boom, of 2 by 12 inch timber. It had a lens height range from 1 foot to 22 feet. It was mounted on a rotamulator, and could be used practically in any location. It could be either demounted or assembled in an hour. Inci-



Sid Wagner on his home ground in Los Angeles



Sid Wagner in alternating African heat and cold

dentially it was a never ending object of attention from the natives, of a combination of amazement and admiration.

The safari consisted of 200 natives. Besides these there were three-score others who acted as personal servants, while others were attached to the camp of the troupe. The objective was Ujiji, on Lake Tanganyika. Between that point and Nairobi frowned old Mount Kilimanjaro, rising 19,324 feet.

In spite of the fact the journey was in equatorial country, Nairobi being less than a hundred miles below the line and Ujiji less than four hundred, the temperature at times at night was found to be the fierce cold attaching to an elevation of eight thousand feet, which height was attained in circling the formidable Kilimanjaro.

Twenty-six trucks were employed to transport the crew. Particular attention was paid to feeding not only the troupe but the natives. The supply of fresh meat was more than ample and of the best. Guaranteeing this were the rifles of Mrs. Johnson and the white hunters accompanying the party.

The camera crew had the use of the late Martin Johnson's equipment, including camera car and darkroom, dehydrators and desiccators, the whole built as a trailer house. Everything was airtight. The vehicle carried its own ice-boxes so the crew could make cubes as it traveled.

Prairie Fires

The main difficulties on the photographic side were caused by the necessary efforts to keep the film dry in the face of humidity and moisture during the course of the rainy season. The drawing of the moisture by the sun caused haze that was something new to the travelers, resulting in an unending battle.

Another difficulty encountered by the troupe was the high grass. It was desired for locations at times. The trucks would be halted for a night's camp and a loca-

tion spot for the morrow at the end of a trek of perhaps a hundred miles, that being the average maximum distance possible in a ten hour run in a route off the beaten path.

During the night natives would set fire to the grass. There were several reasons for the action, among them the excellent one that when the grass extended above their heads their "visibility" was extremely limited and their safety from the hazards of travel and of the hunt accordingly restricted. There was not much to be done about it so far as the natives were concerned, for in that particular respect they could not be controlled. The only recourse was to move on.

There was one phase of these fires which Sid Wagner did not touch upon in his chat. We quote, however, from a report to the Fox company of Director Brower:

"Once a grass fire almost trapped us, sweeping down with such speed from all sides that our natives cleared a space just in time," said the director. "For miles, as far as we could see, the fires raged, and at night it was as bright as in the daytime. The cameramen risked their lives several times to shoot thousands of feet of the blaze.

Fire Starts Stampede

"The fire, of course, started a stampede of animals. The British government estimates there are ten million animals running wild on the Tanganyika plains and you can imagine what a pandemonium the blazes caused.

"At night we could hardly sleep for the bellowing of elephants and the shrieks of other wild game in flight, and the native scouts always were on a lookout for a stampede that might engulf us. The Uganda elephants were our most dangerous enemies. Although the government has had open hunting season on them for years, we saw literally tens of thousands during our months in the

jungle and shot reels of film on charges of the big tuskers."

During the four or more months actually on location exposed film was returned to Los Angeles every week. It was shipped by courier to Nairobi, and from that point by air to London, approximately 7500 miles distant by ordinary commercial routes.

None of the nearly hundred thousand feet of film shipped by air to London, by fast ships to New York and across country by air, was lost either by accident or defect in exposure or in preparing for shipment.

The raw stock or original film was all in sealed tins within tins and vacuum packed. Following exposure the film was desiccated, or dried, for twenty-four hours to free it from humidity or moisture. Then it was sealed and waxed and placed in double tin containers and carefully cased and again sealed for shipment. Every precaution was taken the sealing was so tight that no air could penetrate.

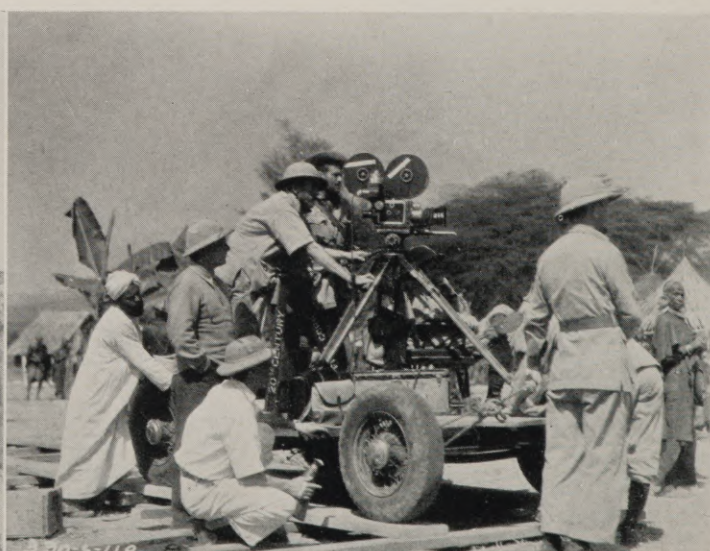
14,000 Miles—12 Days

The average time for travel from Nairobi to Los Angeles by land and water was about five weeks. By air and water the time was reduced as low as twelve days. From that up to sixteen days was the record established by the company.

Wagner had a pretty good idea as to the condition of the film when it left camp. On every "set-up" use would be made of the portable developing box that was sure to accompany the camera—with developing fluid, ice cubes and ice water and fixing bath.

A small strip test of a dozen frames would be made before shooting. In case of any doubt whatever another test would be made after the exposure. This film then would be dried and filed, with a complete record of its identity. If later on the laboratory back in Los Angeles

Taking close shots of Kikuyu native warriors. From behind camera Sid Wagner is talking with Director Otto Brower. On the bank acting as interpreter is Captain Vivian Ward, white hunter. It will be noted other warriors are hard by with their spears. On the right the camera crew is seen in the village of Ujiji, the town on Lake Tanganyika where Stanley found Livingstone.





In camp at Siabi River—on platform, left to right—Sid Wagner, A. S. C.; Otto Brower, director; Sol Halperin, A.S.C., process cameraman; on the ground, Henry Geizen, grip; Eddie Collins, assistant cameraman; Captain Vivian Ward, white hunter; East Indian helper; Jack Byron, actor and assistant director; native helper. At right, photographing hippos in Kenya Colony.

for any reason desired to refer to the film it could do so without delay.

Wagner had along with him his 16mm. camera. He brought home some film exposed in Africa, and in it there were some real thrills. Some of the scenes were taken by himself. There was one undeniable bit of evidence tending to this conclusion. His own figure was not included in the sequence. The photography in these carried the stamp of the professional. Some of the others—in which he did appear—did not.

When the A. S. C. man was chided on this he replied it was not unusual for any member of the troupe to help himself to a shot when he felt so inclined.

Snake Not So Hungry

Two, at least, of those sequences will linger in the memory of any one who never has entered a jungle. One was a scene in which a seventeen-foot python had been disturbed and interrupted while gorging itself on an impalla doe.

As the camera told the story the process had been nearly accomplished. Only the rear hoofs remained to be encompassed. From that point the big snake started the process of reversal. During the running back of this unusual film it became jammed or something. Quite plainly there was gate trouble. Then it was discovered the snake had dislocated his own jaw.

Several men, among them Sid Wagner, with considerable difficulty were keeping the big fellow straightened out and giving him no opportunity to coil. The white hunter stood by with his rifle ready to shoot the reptile before he quite completed the unreeling.

As the cameraman was running the picture he explained the snake would be sure to make plenty of trouble for those present as soon as he was relieved of his burden. And just before the self-imposed task was completed the snake suddenly became quite still—in fact, still. The few who had been holding him—or

her—rose to their feet with an air of what seemed like gratification toward the hunter.

A minor incident in connection with this sequence may bear repeating. That impalla doe that was playing Jonah to the snake's whale was credited by a Fox press story with weighing sixty pounds. That, it may be quite truthfully added, is a lot of pounds for one breakfast.

Matter of Weight

Sid Wagner in showing the film in all seriousness remarked that the impalla weighed ninety pounds. To one person at least who has some rather definite idea of the size of a ninety-pound dog the quoted weight passed without question. It seemed authentic—and in all probability was just that and not any pardonable example of the license extended to every fisherman or hunter to do what in the lingo of the latter is known as "drawing the long bow."

What happened, in all probability, is that ninety pounds was the figure sent from the jungle to Westwood. When the tale was handed a press agent to knock into shape the figure staggered him. No animal weighing ninety pounds could be swallowed by a snake, he said to himself. Arguing with himself he insisted that while this might be the age, too, for miracles, they were not that kind of miracles.

And so, having a keep sense of commercial values, he decided the only way out of that mental dilemma was to take off one third as a commission for the truth.

And so—likewise—for the first time probably in the history of the motion picture industry a press agent collided with a story the truth of which so staggered him that he knocked off one-third of it—which he hardly would have done if he had not been satisfied in his own mind he then was overshooting the actual by at least 200 percent.

Whether or not it be a miracle at least it seems to be news.

There was another sequence which also contained a real thrill. It was one in which the cameraman did not appear, for the very good reason one may be sure that at the time it was taken there was plenty doing around the 35mm. camera.

That was where several thousand natives had been staked out behind the brow of a hill with a long ridge under orders to await a signal to come to the rescue of a threatened expedition. Half a dozen tribes were represented in the personnel of the rescuers, and two of these bore ancient grudges against each other. The majority of the others were not much concerned as to the identity of their opponent, just so long as there was one.

Moving Sight

It was a moving sight when in silhouette the first of the natives appeared above the brow of the hill. As others streamed over the ridge and those in front spread over the hillside it was an impressive scene.

The 16mm. scene closed with abruptness, indicating the camera's operator may have been called to get on the job with the others in an attempt to straighten out a situation that had become more realistic than had been intended.

Gets New Boss

When Sid Wagner reached London on his way home he found awaiting him a wire from John Arnold, head of MGM's camera department, that arrangements had been made with Twentieth Century-Fox for him to await the arrival in London of the company en route to Asia.

But it was nearly six months since he last had seen his family and Sid wired for permission first to return home. That was conceded. Leaving immediately, he was in Los Angeles in a week's time.



Crane or boom built by Twentieth Century-Fox crew at Nairobi before going on safari. Constructed of 2 by 12 inch lumber, it had a lens altitude of 22 feet. At right, the troupe stands for a picture to be sent home. Mrs. Martin (Osa) Johnson, supervisor of the trek, will be readily recognized. Sid Wagner is in the center.

Here he was told MGM had bought his contract and he had a new boss.

It was nearly three weeks before he left for the Orient, and then the boat on which he sailed was the Hoover, which a couple of weeks later piled up on the rocks in the Orient. And that experience

was far from pleasant, one of the minor phases of which was many hours without food.

Just before Sid Wagner's departure for Africa he had purchased a home in Brentwood. In it was a room he selected for his den. It was plenty spacious. But

now it has been found to be too small to give proper display to the many trophies of the chase and the hunt he has brought back with him from far away places. He now is planning a large addition—just to take care of the young museum already accumulated.

Erpi Introduces Sound Recorder for Professional 16mm. Film Men

THE recently introduced professional 16mm. sound film recorder by Electrical Research Products Inc. was designed to meet demand for a machine that would enable sound technicians to record 16mm. negatives with the same facility and quality as though they were working with 35mm. stock.

It has two immediate applications. Direct recordings may be made independently, and by electrically interlocking the machine with a 35mm. recorder both sizes of negative may be made simultaneously. It can also be used to record from existing 35mm. product, thus permitting the introduction of such changes in frequency characteristics as experience has shown to be desirable for reproduction on current 16mm. projector mechanisms.

Flutter Reduced

The rerecording can be made directly from a positive print or from a negative by use of the recently developed negative playback. This latter apparatus permits the immediate reproduction of negative variable density sound tracks and offers all of the oral advantages that would be given by a device capable of permitting one to view a photographic negative as a finished positive print if such a device were available.

Flutter, the variation in recorded sound quality resulting from irregular

film velocity, is reduced to a negligible value in product made on the new machine. Mechanical stabilization is accomplished by locking the film driven scanning drum to a special oil-damped flywheel through one common shaft.

The flywheel assembly, which operates on the Rowland principle, consists of a light, oil filled, driven cylinder inclosing a heavy, free floating, inner wheel. Acceleration between these two close-fitting members is suppressed by the viscous action of the oil. The motor, which may be of either the interlock type for simultaneous use with a camera or rerecorder—or of the synchronous type for independent drive—operates at a tail shaft speed of 1,200 rpm.

Special rubber mountings minimize the transmission of motor vibration and permit the motor to be flexibly coupled with the main worm shaft without torsional play. Both the sound and the holdback sprockets are driven from this latter shaft through worm gears. Positive take-up magazine action is assured by a silent chain drive.

Eliminates Sound Distortion

As viewed in front, the film compartment is situated on the left side of the machine. It contains the drive and holdback sprockets which are hardened and ground to close mechanical limits, the film scanning drum described, and the

necessary pressure and guide rollers. A unique "variable intensity, variable density" modulator unit, which functions to transform the fluctuating sound currents into proportional variations of light properly focused to expose the moving film, occupies a compartment immediately to the right of the film propulsion mechanism.

Because 16mm. film travels at approximately one third the speed of professional film, the new recorder utilizes an image height of only .0004 inches, hence the modulator is easily capable of recording sound frequencies of 7,000 cycles per second. Equal performance in 35mm. machines would necessitate extending their present upper range to 17,500.

Direct headset or loudspeaker monitoring is accomplished by means of a photocell monitoring amplifier contained in a compartment directly back of the modulator. This amplifier is ingeniously mounted so it may be easily removed from the machine without disturbing any wiring, by simply removing the rear cover plate and unfastening two thumb-screws.

Numerous original sound films and recordings recently produced on the new recorder prove that 16mm. is now an entirely practical medium not only for non-theatrical subjects but for entertainment pictures as well.



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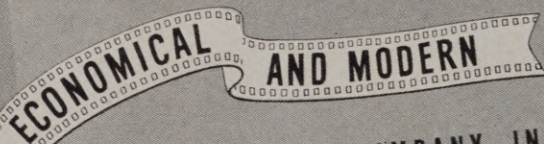
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Month's Photographic Honors Fall to Daniels on 'Marie Antoinette'

Members of Poll Vote Heavily in Favor of Cameraman Responsible for Quality of Photography on MGM's Great Production—Picture Has Such Rare Union of Spectacular and Emotional Appeal That It Is Accorded Seven Out of Eleven Firsts

WILLIAM DANIELS, A.S.C., for his camera work on MGM's "Marie Antoinette," walked off with the July photographic award by the Preview Poll. It was a decisive verdict, there being a plurality almost equal to that given Robert Morley for his work as a supporting actor in the same picture. Theodor Sparkuhl, A.S.C., was second in Paramount's "Texans" and Tony Gaudio, A.S.C., in Warners' "Garden of the Moon" was third.

"Marie Antoinette" did not take all of the eleven awards, but it did take seven of them, and that is something of a record. Just to sort of cinch that vote the poll gave two of the remaining four to MGM, making nine for one studio for the month.

But there is a reason—an excellent reason—for the landslide. "Marie Antoinette" is a landslide of a picture. Impulsively one is inclined to assert it is the greatest ever. Perhaps it is. But nevertheless truthfully it may be said of it that "It has about everything."

It is a great spectacle. Just name one other that has made its comparatively brief entrance and exit across the last quarter of a century that will exceed it in lavishness, in gorgeous costumes and settings, and . . . in the pull on the emotions.

It is in the last half dozen words where you narrow the competition. Of great spectacles it has been a poor twelvemonth during the last score or more of years we have not had one or several. But great spectacles and great heart stories combined within the covers of a single box as we have in "Marie Antoinette" is something else again.

Camera Department Shines

"Bill" Daniels and his fellows upheld the credit of their craft in their contribution to the sum of "Marie Antoinette's" size. That tragic story of the latter half of the eighteenth century because of the very quality that marked its creation, from writing to photography, put every contributor "on the spot," so to speak.

The competition between the makers, major and minor, was fiercely keen. Only those who knew the route and had the genuine speed could keep the pace.

The camera department of the big Culver City studio has every reason to be congratulated on the rare quality of its work in "Marie Antoinette."

Associated with Daniels both in the preliminary work and in the larger scenes were George Folsey, A.S.C., and Leonard Smith, A.S.C.

William Daniels literally attached himself to a star—in fact, two stars. He has been the cameraman of Norma Shearer and Greta Garbo.

It was Irving G. Thalberg who guided the careers of both stars. It was also Thalberg who gave Daniels his opportunity.

Daniels was born in Cleveland, but moved to Los Angeles with his parents when still a youngster. He was a candid-camera fan long before the fad became a national craze. While attending Lincoln High School he tinkered with cameras, used the family bathroom as a darkroom and ruined his best Sunday go-to-meeting suit with developer.

Rapid Promotion

After completing his education at the University of Southern California in 1917, Daniels discovered that photography still interested him more than zoology, economics or ethics. He secured a job as an assistant cameraman on a Gloria Swanson feature, "Smoke," which Jack Conway directed.

Ambition and a knack with cameras assured rapid promotion for the young cameraman. Universal Studio hired him as a second cameraman on a serial, "Robinson Crusoe," starring Harry Mey-
(Continued on Page 395)



On the left is Director W. S. Van Dyke II and William Daniels, A.S.C., who directed and photographed MGM's rare creation of "Marie Antoinette." There can be no weak links in the chain that represents this production. There is none here. The photograph reproduced here has added interest in that it was exposed on the set of the same company's "Personal Property," starring Robert Taylor and the late Jean Harlow.

Reverse Studio Lighting Methods to Put Big Night Spots on Screen

By VICTOR MILNER,

President American Society of Cinematographers

PREPARING for the production I am currently photographing, Paramount's "Say It in French," an interesting problem arose the solution of which may perhaps be helpful to other cinematographers as a means of extending the scope of their work. Certain action in this script would be greatly enhanced if it could be laid in the celebrated Peacock Alley and Starlight Roof of New York's Waldorf Hotel and in the Rainbow Room of Radio City. But it seemed doubtful if this could be done.

Leaving aside budgetary considerations, the mere physical size of these rooms made it impossible to duplicate them in authentic-appearing studio sets. Some of them are so large that few if any studio stages are large enough to house them.

The transparency or background-projection process, however, seemed to offer a chance to achieve the desired end—provided it was possible to film background and atmospheric scenes of the real Peacock Alley, Starlight Roof, and so on, in a manner combining major production photographic quality with a convincing atmosphere of actuality. The large scale phototechnical problems involved made even this seem doubtful.

Authentic Locales

It was therefore decided that I should go to New York, survey the situation at first hand and, if possible, film the desired scenes. In this connection much credit is due the Paramount executives, especially William LeBaron, Fred Leahy and Producer-Director Andrew Stone, for their understanding of the photographic difficulties of the problem and their agreement that the scenes were to be attempted only in the event that the very best of photographic quality could be obtained.

Fundamentally the problem was of course one in large scale lighting on settings neither designed nor intended for cinematography. With modern equipment it would be possible to illuminate

these large areas to afford satisfactory exposure levels: but would it be possible to light them in the cinematic sense, to create illusions of roundness and depth and to match the quality of studio cinematography?

In addition to this problem we were all of us fearful of the more purely mechanical problems of lighting equipment and power supplies. After all, it has been some years since New York was a consistently active producing center, and many changes in lighting equipment have taken place in that time. Would the equipment available be sufficient in quantity and quality to cope with a problem of this magnitude? Would adequate power be available?

My worries as to equipment were banished soon after I met Charles Ross, head of the equipment firm from which Keith Glennon and Roy Hunter at the studio arranged for our equipment to be obtained. As the eastern representative of the Hollywood Mole-Richardson organization, I found Ross' establishment to be supplied with an array of the latest and most modern lighting units such as few of even Hollywood's major studios could boast. The quantity of equipment available proved ample for several assignments of even greater

magnitude than mine. In addition, Ross' organization supplied a crew of fully competent electricians to operate the lamps.

Power to Burn

When I learned the portable generators so universally used for location work in California were practically unknown in the East I again envisioned failure in the assignment. But Ross merely smiled and suggested that I ask regarding power from the engineers of the various buildings in which we planned to work.

The problem began to diminish at my first talk with Chief Engineer Bourciet of Radio City. I estimated we would have to call upon him for as much as thirty-five hundred or even four thousand amperes—and he calmly informed me he could supply anything up to 65,000!

Later, the engineer at the Savoy Plaza swept me off my feet by offering anything up to 500,000 amperes!

Our only serious power problem was encountered at the Waldorf, where, though we had ample power, the current was supplied at 220 volts. Since the only available light globes were of the standard 110-volt types this necessitated burn-

Day scene filmed in the middle of the night in the Starlight Roof. Daylight effect from window in background was made by illuminating white backing suspended outside. Lamps had to be placed with unusual accuracy; a single column often had to conceal several lamps from the camera.



Scene filmed in Peacock Alley, Waldorf-Astoria, New York. Virtually all illumination had to come from lamps concealed in the scene. Note how illumination of ceiling helps suggest depth.

ing all our lamps in pairs, wired in series. Thus if we could not conveniently connect two lamps on the set in series we had to have for every lamp on the set, a duplicate, electrically interconnected lamp burning off the set to balance the load!

Surveying the various rooms in which we were to work, it at once became apparent that all lighting would have to be done from the floor. With the modernistic architecture now in vogue, the balconies and mezzanines, once so familiar a part of hotel lobbies and cafes—and so convenient a place for overhead and back-lighting units—have vanished.

Real Problem

Under ordinary circumstances, lighting wholly from floor units would not be a particularly novel or serious problem. In this case, however, the extreme magnitude of the rooms, and the necessity for creating depth and roundness made the problem genuinely difficult.

The solution was, briefly, an almost complete reversal of customary studio procedure. In the studio, we commonly light our sets from above—from spot-lighting units placed on overhead lamp-rails and directed downward into the set at various angles.

In this case, we did the opposite: we



accomplished most of the lighting of the "set" from below—from units placed on the floor and directed angularly upward. In the studio, the overhead lamps are out of camera range above and beside the set. In these scenes the lamps often had to be in the set, carefully concealed.

The chief aim of course was to reproduce the lighting effects seen in these rooms in reality. To this end I carefully studied the rooms under normal conditions, charting the position of every light used.

When the time came to film our scenes, I strove to duplicate these natural lighting effects with light of photographic intensity, adding whatever further lighting might be necessary to achieve the needed depth and roundness. In every case, the setting rather than the people in it was the star of the scene.

Long Corridor

Lighting Peacock Alley, which is a corridor about fifteen feet wide by eleven high, extending completely through the building for a long city block, was an exceptional problem in securing the effect of depth without being able to use many of the conventional methods.

The corridor is lined with exclusive shops. The windows and entrances of these, illuminated, helped to suggest depth. At the far end, the corridor terminated in a right-angled cross-passageway, which again gave some opportunity for cross-light highlighting.

Along the length of the corridor were numerous projecting settees and alcoves. Behind these it was possible to conceal various lamps which could be used to illuminate the long passageway.

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(Continued on Page 394)

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Cinematographers' Ladies' Night

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UPON the invitation of the Board of Governors of the American Society of Cinematographers for a ladies' night at the clubhouse at 1782 North Orange Drive, Hollywood, more than sixty couples responded on the evening of July 30. The party was entirely informal, as is the custom at A. S. C. affairs—and as it has been for the twenty years of the organization's active existence.

A portable dancing floor had been laid in the main lounge, some of the furniture which normally graces that spacious room being shunted off to the library. The orchestra of Patrick and Marsh was stationed in the lobby adjoining and kept things humming, especially following the introduction of the big apple by Treasurer Fred W. Jackman and John F. Seitz. It seemed then there was just one apple after another.

In the absence of President Victor Milner, detained in the East on a Paramount assignment, First Vice President George Folsey was the ranking official. Assisting him in his emceeing job were his fellow-directors Fred W. Jackman, Frank Good, John Arnold, John W. Boyle, Ray June, Charles Lang Jr. and Joseph Walker.

Present as especial guests of those so fortunate as to be present were several "widows" of members absent in other parts of the world. These were, with the locations of the absentees, Mrs. Milner, Mrs. Elmer Dyer, whose husband

was in Pensacola; Mrs. Clyde De Vinna, en route home from an assignment in the Amazon jungles; Mrs. George Schneiderman, in Arizona on a location hunt, and Mrs. Karl Freund, detained at the studio by a night assignment.

Present also for the festivities were Mr. and Mrs. Sidney (Sid) Wagner, the former of whom due to his various worldwide assignments the past twenty months for Twentieth Century-Fox and MGM for the first time saw the inside of the clubhouse.

By and large it was a good party, as parallel affairs of the A. S. C. are more than likely to be so declared.

The following message was received from President Milner in New York:

"To the members of the A. S. C. and their ladies—greetings. To say I regret

I cannot be with you at our family party tonight is putting it mildly. A studio assignment like the one I am on which keeps me three thousand miles from Orange Drive and Franklin Avenue is the only thing which could possibly prevent me from being present to enjoy the festivities."

"Safety Glass" Filmed

The manufacture and utilization of safety glass is depicted in a new two-reel silent motion picture film entitled "Safety Glass," which is the latest addition to the extensive educational film library of the Bureau of Mines, United States Department of the Interior. The film was prepared in cooperation with an industrial concern.

Jay Gage Passes

Funeral services for Jay Gage, father of Fred Gage, A.S.C., head of Warners' studio laboratory, were held August 22 at Forest Lawn. The late Mr. Gage was a pioneer in the development of the airplane, being proprietor of the first aviation school on the coast.

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Abrams Builds Plane and Camera for Aerial Photographic Mapping

ANNOUNCEMENT is made of a new camera for aerial photography, developed and built in the laboratories of the Abrams Aerial Survey Corporation of Lansing, Mich.

Last year the Abrams company built the Explorer, a plane especially de-

signed for aerial photographic mapping. This, with a maximum speed of well over 200 miles an hour, brought about the development of the present camera, for the old instruments, with only 100 exposures, had to be reloaded so often when used with the Explorer that valuable mapping time was lost.

The Abrams camera, however, carries 500 feet of film, approximately seven times as much as the old camera, enough film for more than 600 exposures. Since it takes about 10 minutes to reload an aerial camera, the new one will enable photographers to spend about an hour more time actually taking pictures on one roll. More than 400 square miles may be surveyed in this period.

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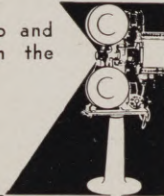
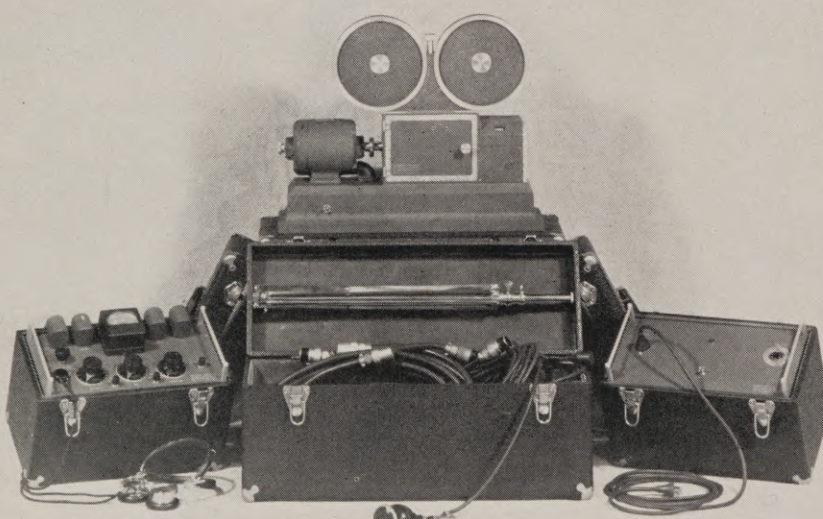
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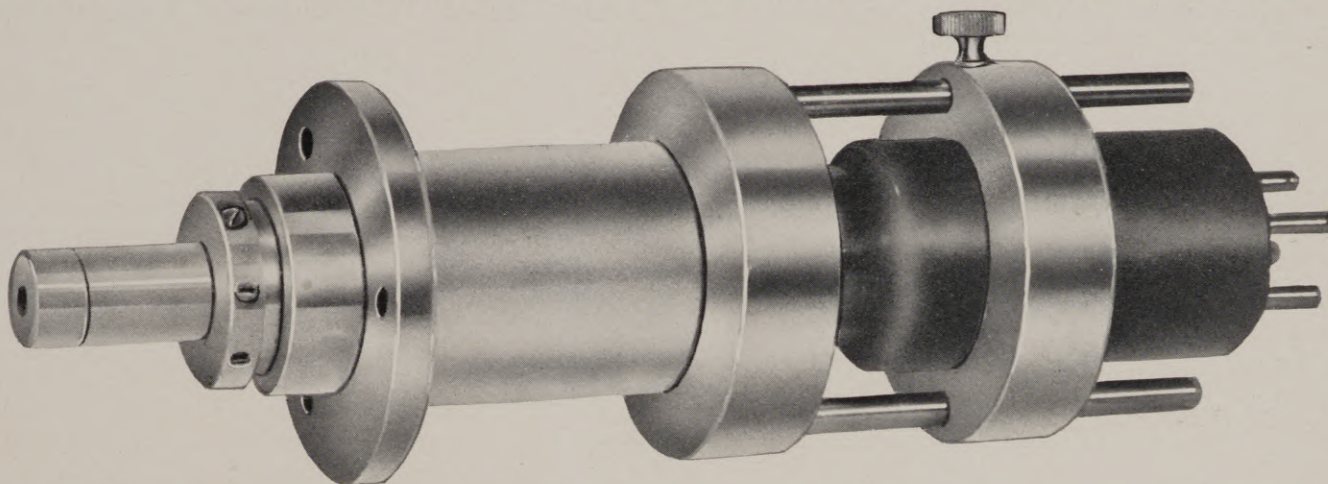


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"The River" Makers Transferred to National Emergency Council

WASHINGTON. — The film unit which made the United States Government's two documentary epics, "The Plow That Broke the Plains" and "The River" has been transferred from the Farm Security Administration of the Department of Agriculture to the National Emergency Council, where it has been assigned a coordination study task.

Lowell Mellett, executive director of the NEC, has not announced plans for the unit nor has he indicated what name the film organization will bear.

Pare Lorentz, New York critic, author and director of the two documentary

films named, has been asked to make an extended study of Government film coordination for the NEC. In outlining the purposes of the study the NEC has indicated a desire to improve the product of the Federal Government while at the same time not entering into commercial motion picture competition with Hollywood.

Consultation Service

In addition to making the coordination study the film unit is continuing educational distribution of "The Plow That Broke the Plains," while "The River" is being given its national commercial release through Paramount.

The Lorentz staff also is acting in an advisory capacity, offering a consultation service to other government bureaus interested in the production and distribution of non-theatrical films.

This activity includes advisory service to state boards of education, schools, colleges, adult educational groups and experimental film organizations.

No new personnel is being added nor have any production plans been announced for future documentary subjects.

Among those in the new organization who have been transferred from the Farm Security Administration are Arch Mercey, who was assistant director of information and research editor of "The River." Mr. Mercey now is in the Washington office of NEC and George Gercke, who was formerly with the New York office of FSA, now is in the New York office of the NEC.

R.N.H.

Form Film School Library with Rockefeller Backing

Fanning Hearon, who for some time has been the director of the Division of Motion Pictures, Department of the Interior, Washington, has resigned to head a new organization known as the Association of School Film Libraries with offices in New York.

The new group is financed by the General Education Board, a Rockefeller

foundation, and is a non-profit motion picture corporation set up for the centralization of visual educational information. Mr. Hearon states that the corporation is a "direct."

The organization will act as a central source of supply to which all schools and colleges may turn for assistance and advice in securing films. For members in the association the organization will obtain appraisals of various films which are available and those that can be made

available. It will not rent or produce motion pictures, but will act as an impartial unit between producers and consumers.

Weston's Film Speed Sheet with New Ratings Is Ready

Amateur and professional photographers can now obtain the new film-speed sheet just issued by the Weston Electrical Instrument Corporation, Newark, N. J., containing the latest ratings on some of the newer films.

The sheet also includes revisions, made as a result of exhaustive tests on American films, and some of foreign make have been shown to produce negative densities which today assure the most desirable photographic results, from the standpoints both of contrast and of printing quality.

Copies may be obtained from photographic dealers.

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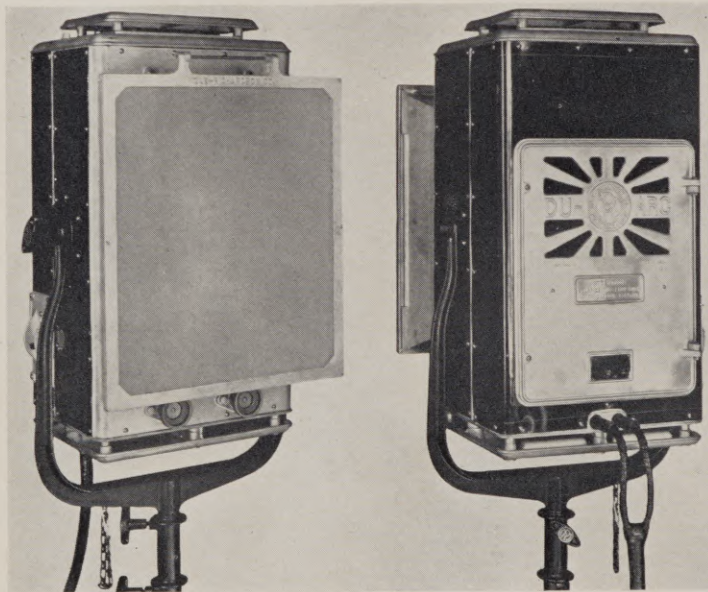
ON THE SET

EVERY DAY

DUARC SOLVES ARC PROBLEM!

AUTOMATIC ARC HURLS DEFI AT FLICKER!

A direct attack on flicker in broadside arcs was made today by Duarc, new Twin-arc broadside from Mole-Richardson. According to statement from informed sources, flicker menace was laid to inadequate feeding of arc carbons in previous broadsides. New Duarc, it was stated, overcomes this by automatic feed governed by arc itself. The two arcs in Duarc can't get flicker-causing anemia by inadequate feed, nor can carbons be fed too rapidly to arc, for the automatic mechanism supplies carbons at exact rate they are needed, and permits consuming them down to three-inch stubs. Sensitive photometers and color-cameras are reported still searching for flicker in Duarc, but unable to find it.



First Photos of Record-Breaker

Exclusive photos of record-breaking Duarc show radically new design and appearance. Fully automatic control operated by single switch turns the new arc on and off as easily as a house-lamp. Rigid one-piece Pyrex diffuser eliminates ultra-violet and gives wide flood of smooth, powerful light. Special mountings permit Duarc to do double duty, serving either as floor flood-lighting "broadside" or overhead scoop.

NEW TWIN MAKES 2 HR. NON-STOP RECORD!

Shattering the previous twin-arc endurance record of 40 minutes without retrimming, New Mole-Richardson Duarc today made a non-stop run of over two hours without retrimming or other attention. Record was made under official timing, and since repeated on several sets. Makers point out practical value of this record is that it will permit Duarcs used as broadsides or overhead scoops on color sets to work full day without delaying production for re-trims. If burned carefully, a single trim in a Duarc should last all day; otherwise a Duarc, freshly trimmed in morning can work without attention till noon, when a second trim will enable the record-breaker to finish the day without further attention.

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Use coupon for complete details. Filmo 141 is camera news you'll want to know about!



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The finder has masks for telephoto lenses. There are four operating speeds and a single-frame exposure device which permits all types of animation work.

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MAGAZINE CINÉ-KODAK

IF there is such a thing as a "matched set" in the home movie field, the 16 mm. camera and projector you see above are it. Both are designed to provide every popular operating refinement at an extremely reasonable price, and to couple these taking and projection conveniences with the utmost simplicity of operation.

MAGAZINE CINÉ-KODAK is probably the easiest camera in the world to operate. Yet it is also one of the most versatile. You load it in three swift motions—slip open the cover, slip in a film magazine, latch the cover. And you can change magazines—black-and-white to Kodachrome, and back again—without wasting a single film frame, even when the magazines are but partly exposed. Three speeds—normal, intermediate, slow motion. Its famous Kodak Anastigmat f.1.9 lens is interchangeable with seven accessory lenses, ranging



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Magazine Ciné-Kodak is priced at but \$117.50, with f.1.9 lens; Kodascope G is priced from \$113.35, including lens and lamp. See this outstanding equipment at Ciné-Kodak dealers'—or write Rochester for free literature.

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AMATEUR MOVIE SECTION



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And the stills are still with us

WE COMMEND to our readers' attention among other stories this month that from the typewriter of Ormal Sprungman of Minneapolis. It was built by a man who loves as he knows his West, on horseback or standing hips deep in tumbling streams. Substitute camera for West, and the same holds true.

On the morning of the day these closing lines were written for the September issue (we more than fervently hope) we received a note from this writer-fisherman-camerist setting forth he was leaving early the following morning (August 25) for a pack trip in Western Montana, adding he was taking a lot of color stills and color movies on the jaunt. He would be away nearly a month.

A few moments ago we were wondering where on a sunny, somewhat sultry Saturday afternoon in the residential silences of a block above Hollywood boulevard, with a near forest of trees on one side, on two sides, and a \$700,000 Methodist church a block away on another—tie that, you who believe all the wicked you hear about Hollywood—we were wondering who would supply something to talk about.

What could be better than that remark of Sprungman he was going to expose a lot of color stills and color movies? Even should they rather be all black and white the remark still is interesting.

On another page in this book—the last time we saw the story it was 388—there is a tale of two of the larger manufacturers who are building against the day when the custom of using both kinds becomes even better established than it seems to be at this time.

Eastman always has plunged on the still side of the house. It did a long time ago for the simple reason at that time there were no motion picture cameras. But all through the present era of amateur motion pictures it has never overlooked the throng which clung to the still division. It is expanding its attention to the still camera.

Bell and Howell, thirty years delving into motion picture cameras, both professional and amateur, has now taken on the representation of a miniature camera, one built abroad. While the representation at this time extends to but sixteen states, there is no reason to believe the expansion will stop at that point.

The professional movie studios many years ago learned that only through a still camera could they more completely describe the achievements of the cine camera.

The 16mm. camera continually is reaching into the professional realm, as

By GEORGE BLAISDELL

it has been for a long time. In the professional section of this issue is a story on what Erpi has been achieving in sound recording in 16mm.

And another article we wish to call to your especial attention—in the event you still are with us—is that opening one written by Dr. Robert W. Carter wherein he answers the many questions that have been leveled at him since his first communication in these columns last July.

The Doctor admits these widespread and important inquiries have aided him and those associated with him in forming a definite opinion regarding the keen interest in metal film and its projection. He reports the questions ranging from high technical points regarding the reproduction of sound from metal film to practical points about speed of exposure, development and the fixing of the image on metal.

It is with pleasure—and gratification—that we assure our readers there will be following articles in this most fascinating development in the field of motion picture research today, although it is worth noting the Doctor reminds us that the permanent reproduction of a photographic image on metal at a price compatible with modern requirements marks the end of their research. "The commercial development and exploitation we must rest in other hands," he concludes on the matter of research.

On the afternoon of August 17 along with Bob Teorey there was a run out to Santa Ana to visit the Orange County 8mm. Club and to pass what might be the best judgment we had on the relative merits of five subjects submitted in summer competition. The club has been organized but five months. It has a fully paid membership of fifty, and the attendance at each meeting averages a hundred. So there certainly is a future for Orange County 8mm.

After the showing the two Angelenos were entertained at dinner by E. M. Sundquist and R. N. Hockaday, both of whom as it happens are members of Los Angeles 8mm. and frequently give no particular thought to undertaking a round trip of a hundred miles or so to attend sessions in Hollywood.

The stated meeting of Orange County was held in an assembly room of Junior High School. The first prize was awarded to Harold D. Warner for his splendid Kodachrome portrayal of everyday experiences of an orange rancher. "Growers' Friends and Foes" revealed the constant vigilance imposed on the grower by his tiny enemies. In craftsmanship and in the thought that lay behind the dis-

tinctly educational product there are abundant reasons why the picture should have a wide audience.

"The Queen and the Commoner," a drama with a comedy touch, submitted by Harold Witt, was awarded second prize for the excellent work done by these young folks of high school age. Here is a group by the way that will be serious contenders when we reach the stage of a national high school contest, which is bound to come.

E. M. Sundquist, for his "Parks in Southwestern United States," a Kodachrome subject that reached even into Colorado, was given third prize. Honorable mention for two black and white pictures was awarded "Snapshots of Sally," R. N. Hockaday producer, and "A Weekend Visitor," submitted by O. L. Jacobs.

The program closed with the showing of Bob Teorey's "Golf Widow." There was every audible evidence this comedy tale of the golf widow who may have been fickle but certainly was not lonesome made a genuine hit.

James W. Moore, continuity and club consultant of the Amateur Cinema League, 420 Lexington avenue, New York, has prepared "Featuring the Family," a thirty-four page booklet of scenarios for distribution among members of that organization. The subjects chosen are the more familiar family occasions usually selected for filming.

Four of these have been prepared in full scenario form: The Birthday Party, An Evening at Home, The Wedding and Christmas. In treatment outline are The Day's Outing and From Dawn to Dusk. The number of scenes in the four scenarios are respectively 43, 51, 35, and 78.

The book is thoroughly planned and will have real interest for those who like to make 'em but just positively can't write 'em.

Through fault for once at least not entirely our own there was failure last month to give credit due to Esther Brodelet, Twentieth Century-Fox player then working in "Hold That Coed," for posing in the pictures that accompanied the illuminating story on filters contributed by Earl Theisen. We regret the omission.

Late in August at the Bell and Howell auditorium we were shown by R. F. Heron, director of public relations of the Plant Culture League, a reel and a half of 16mm. color film showing the remarkable advances that have been achieved in the newer field of tank farming. Mr. Heron has been a still photographer for many years. He well might have laid claim to many years' experience in the

(Continued on Page 385)

Roundup with Crowding Thrills

Just Perfect Filmer's Paradise

If You Can Keep Your Mind Off the Blondes You Can
Bring Home More Prizes on Celluloid Than Top
Hands of Rodeo—East Recognizing Crowd-
Pulling Possibilities of This He-Man
Entertainment—Veteran Camerist
Gives Benefit of Experience

By ORMAL I. SPRUNGMAN

*Photographs by the Writer—Including 16mm.
Enlargements from His Own Rodeo Reels*

YOU don't have to be a third cousin of Buffalo Bill to make "yippee movies" of the wild and woolly West. If you can perch on a fence post and shoot up an afternoon of blood-tingling excitement—keeping your mind off the blonde-haired dudeens—you can bring home more prizes on celluloid than all the top hands of rodeo.

Each summer and fall every little whistle stop in the West dons its ten-gallon hat, hangs a gala dress over its downtown streets, and stages a roundup which offers more thrills than a whole park full of roller coasters.

Even the East has begun to recognize the crowd-pulling possibilities of this he-man entertainment, and its wide acceptance has made rodeo action filming the number one pursuit of many still and movie photographers.

Bronc busting and bulldogging are no pastimes for amateurs. Because inviting purses tempt the best rodeo performers in the field, who also happen to know a few things about showmanship, roundup movies need never suffer for lack of interest or action.

There isn't a single event in an afternoon program, from calf-roping to trick riding, that won't keep a

cine audience on edge and yelling for more. How to film the show to best advantage is your only problem.

Sit Through One Day

If you have never before witnessed a rodeo, sit through the first day's performance just to get the hang of the thing. Note the types of stunts and make a mental record of the best camera angles for shooting the various scenes. Try out the different seats, not for hardness, but rather for filming locations.

Maybe the last row in the grandstand will give you a nice vantage point from which to film down upon the main arena, while a ground level will be best for the bucking shots. Notice particularly the placement of the vertical posts and crossbeams, and be sure that none will obstruct camera view once you get set.

Study a copy of the program explaining the different events and call upon the men in charge of

Left—Illustrations cut from newspapers or magazines will often dress up rodeo titles. These title cards are from the writer's own western rodeo reel.

Right—This label title receives a humorous touch from newspaper drawings clipped from Denver Post mounted on dark title card and outlined with white ink.





the show who no doubt will be glad to help you with serious shooting problems. At a recent rodeo in Western Montana the writer was given the privilege of shooting from inside the fence, but after watching a hot session of hoof-kicking he decided henceforth to do all his filming from the safe side, which is the outside.

There probably is no such thing as the ideal camera for rodeo filming, but any outfit with an $f/3.5$ or $f/1.9$ lens should be satisfactory for most types of weather conditions that prevail in the West. It is not essential, but it certainly would lend variety to shoot with an outfit equipped with different shutter speeds.

Variety in Speeds

For instance, 32 or 64 frames per second would permit a detailed study of the movements of the horse and the facial expressions of the rider engaged in sun climbing or roping. Since the action is naturally fast and furious, even 24 frames per second would give a more pleasant screen performance.

For a humorous effect, take one or two shots of bronc busting at 8 frames per second. This will produce rapid action on the screen, and the result will probably draw a lengthy chuckle.

While interesting movies may be taken with the ordinary one-inch lens, a telephoto lens—either the three, four or six inch—is extremely helpful for bringing in close-ups of the action from safe, remote distances. In fact, after your stage is set with a few long shots of the arena, much of your filming will be done with the telephoto lens.

Tripods and telephoto lenses should always walk hand in hand. It is not always possible nor convenient, however, to set up a tripod in an overcrowded grandstand or along a fence line. The next best bet is to find locations where the camera can be held securely while running to prevent an influx of wobbly looking scenes.

Usually, any post which holds up the roof will serve nicely as an impromptu tripod. Merely hold the camera against the side of the post, grasping post and camera with both hands, and if you wish to panoram to follow the action, swing body and hands slowly but do not remove the camera from the post. Rock-steady telephoto shots can be assured in this manner.

Keep Finder Free

If you film from ringside rest the camera atop one of the fence posts or fit it tightly in the crotch of the wiremesh and shoot to your heart's content. The only precaution is making sure that the camera support does not interfere with sighting through either view finder, for the object followed must be perfectly centered in the finder at all times.

16mm enlargements.

1—As a suggested opening, fade in on a closeup of a rodeo sign on an auto tire cover, fading out as car moves slowly away.

2—Tongue lolling, tail aflutter, this bronc provides excellent movie action.

3—This telephoto close-up shows excited expression of woman atop frenzied horse.

4—In this scene the sign in background reveals location of rodeo, along with action.

If you are a monochrome filmer, panchromatic stock will fit your needs, but for end-of-the-day shooting, when the sun plops behind a tall mountain and shadows begin to creep over the arena floor, supersensitive film will be better. I have found that a 1x or 2x yellow filter gives much better definition of the subject when filmed in this dust-laden atmosphere.

Use Tire Cover

No filter is necessary of course if Kodachrome is used, for here almost flat lighting will give the best color pictures. Do not attempt to film color close-ups of faces heavily shaded by ten-gallon hats. If the light is not right move around until proper lighting can be combined with the best shooting angle.

Now that you have a general idea of how a rodeo functions, plan a special continuity for your picture. Don't be content to shoot the action and let it go at that.

You might fade in, for instance, with a close-up of a poster or road sign advertising the rodeo and then pan to right or left to show the crowds entering the grounds. Or you might focus your lens on a close-up of the rodeo sign painted on an auto tire cover, and when you have run off a little footage motion to the driver to start slowly down the road for a fadeout. Follow up by showing the same car entering the rodeo grounds and the occupants stepping out to join the crowds pouring into the stands.

There is still another possibility. Open with a long shot of the crowds mulling about, and then swing to a near shot of a ticket-taker, and finally a close close-up of a couple of printed ducats, revealing the name, place and date of the rodeo celebration. Panoram swiftly to a close-up of several spur boots walking in through the gates and lift the camera slowly to show a long shot of the layout.

Be sure to arrive at the gate at least an hour early. There are always interesting close-ups that may be snatched before the area becomes too congested.

Opening Action Shot

Try a long shot of the crowds in the stands, and then bring the camera up close for an over-the-shoulder shot of somebody reading the printed program describing the events in order. You can cut up your own program when you get home and shoot extreme close-ups of the essential printed matter in your cine titler, inserting this information before the appropriate bit of action.

Another way is to have a friend hold the opened program two or three feet in front of the lens to give the appearance of a printed title, and then, after the wording has been read, slowly lower the program out of camera view to reveal the first bit of action in the arena. Naturally, the swing from close-up to long shot will require a quick twist of the lens

16mm enlargements.

5—For close-ups like this, leave your grandstand seat and shoot from ground level through fence.

6—Gaily dressed cowhands and attractive steeds will photograph well with color film. Use flat lighting, however.

7—A three-inch telephoto captured this priceless scene as the rider slipped the noose over the calf's head. When panning, note how blurred background accentuates figures in foreground.

8—Where action is spread out, as in this calf-roping scene, the one-inch lens covers the field better.





—Graflex photos.

Left—Frame the opening parade through the roof supports from a high vantage point in the grand stand. Right—The ordinary one-inch lens is ideal for including the whole field of action, as above, but for close-up study use the telephoto. (NOTE: This shot shows white bronc in midair with all four feet off ground.)

barrel, but this can be accomplished easily and smoothly with a little practice.

After the judges on their mounts are presented, a parade of all participants in the show usually proceeds around the arena. There is nothing remarkable about this, except that it provides an appropriate introduction for succeeding footage.

With this opener, shoot down over the silhouetted heads of the audience, showing the parade in the background, then change lenses quickly and bring the contestants into a semi-close-up. Don't devote too much footage to the parade, for the events that follow will be screaming for every bit of your film.

Bronc-busting action will steal a lot of your footage. If the chute is across from where you are shooting use the telephoto lens almost exclusively to show the rider being lowered down on the horse and released into the arena. Perhaps one out of every two riders will be thrown before time is up, and these spills will carry all the thrills of a bone-breaking pile-up in a football encounter.

Watch Horse

Calf-roping and bull-dogging show up better when filmed from an elevated seat in the grandstand, rather than at ground level. After the noose tightens around the fleeing calf note how the horse is especially trained to keep a tight line while the rider dashes madly over the field to bind the feet of the youngster.

In bull-dogging watch the rider as he pursues the steer, and be sure to catch that hectic moment when the rider slips off his mount, grasping the horns of the animal in an astounding headlock. Rarely does the rider ground the steer at the first crack.

If the action is close to your side of the fence, dash down out of the stands and get a nearby close-up with the one-inch lens, showing the twisted head of the animal and the perspiring, cussing cowhand in action. Remember that plenty of close-ups will spice up your film.

Native dances by local Indians, as well as trick roping and other stunts, will furnish a welcome breathing spell in between the pulse-quickenings acts, the native costumes particularly adding a nice touch if filmed in color.

Most rodeos have at least one daredevil woman

performer whose feats will create sensational footage. One well-known rodeo cowgirl from Mexico City, for instance, numbers among her more recent accomplishments a dangerous leap over a parked automobile while standing astride the backs of her two thoroughbred horses. Other members of the fairer sex engage in bronc-busting and bull-dogging with all the ferociousness of a plug-chewing cowhand. Such personages in action make movies thrilling to watch.

Unexpected Moments

What gives the rodeo its popular reputation are the unexpected moments when almost anything may happen. It is not extremely rare that a bull-dogger snaps the neck of a steer, or gets trampled under the hoofs of a wicked, sunfishing horse. Spills are common off wild-eyed broncs, and the audience looks forward to them happily while the unfortunate rider rubs his bumps, grinning sheepishly.

Occasionally, an unusually frisky horse will carry its youthful rider right over the arena fence, with experienced hands suddenly taking pursuit to rescue the lad from possible harm.

It is not even unusual when a movie camera behaves queerly after being subjected to several exciting hours of rodeo filming. Once out West, just as a bull-dogger was about to break a record, my camera jammed. I rushed down under the grandstand, tossed an old coat over my head, rethreaded the film, and rushed out in the open a few seconds too late, for the record already had been made. Such happenings pack a punch in this type of filming. They fit the mood of the rodeo itself.

Some performances often are preceded by a colorful parade through the downtown business section, only to be followed by a wild celebration after dark, with dancing over cornmeal-strewn streets until early morning.

If possible, shoot these activities in full, for they represent the true spirit of the carnival holiday. Intersperse this footage with a few shots of guitar-strumming cowboys singing on the streets or parked in doorways. You may have to go pretty far West to find a cowhand who plays the guitar, but the public has been reared on this sort of stuff, and it's too late now even to think of changing the diet.

Filming Unusual Travelogue with Background of Everchanging Ocean

Record Made on 8mm. Film when Chester Convoyed
Indianapolis Bearing President Roosevelt to
South America in 1936—Filming Each Port
as Sequence, Alternating with Voyage
En Route as Complementary Chapter
in Story Covering 17,000 Miles

By **ROBERT W. TEOREY**

Late First Sergeant United States Marines, Now in Reserve

AT one time or another the thoughts of many cine filers stray to contemplation of the seas as a medium for inordinary filming which may bring an intense longing to embark on an ocean voyage to the far corners of the earth with camera and film, and eventually many of us are presented with an opportunity to fulfill our desires.

Immense expanse of water has the power to conjure visions of strange far-off lands full of adventure and romance. It is a source of mystery in everchanging moods that vary from day to day which many photographers delight in portraying.

There are periods when the ocean is mirror smooth, reflecting lazily drifting clouds in unplumbed depths, while the dawn of a new day will reveal a disturbed surface of long undulating rollers that gently nudge our ship as it steams its course, setting up a slight roll that seems to invite one to sleep-in as the horizon shifts slowly through an open port.

Occasionally it is in a truculent mood with foaming whitecaps crowning the speeding waves as they endlessly race one another toward an unknown destination while sea birds skim in effortless glide over the shifting, tumbling waters.

Towering Wave Masses

As evening approaches the mood may change to one of storming violence with towering wave masses crashing with a roar over the bow as the ship steadily bucks her way through the gale; a salty tang in the air and the smarting beat of spoon-drift in the seafarer's face as he scans the horizon which conceals scenes of tomorrow.

November 1936, found me serving as first sergeant of marines on board the heavy cruiser U.S.S. Chester, bound on a cruise during which I attempted to portray the changing aspects of the seas as an integral part of my travelogue.

The ship had been ordered to an un-

known destination from San Francisco with all hands conjecturing as to our mission. It was finally decided that we were headed for Panama, but no reason for our sudden move was divulged until our arrival at Balboa, C.Z., where it was learned we were to proceed to Charleston, S. C., to prepare to act as convoy to the U.S.S. Indianapolis, which would carry President Franklin D. Roosevelt to South America on a good will mission.

Cameras had been barred from Navy ships for several months, and upon learning the unusual feature of the cruise all photographic fans aboard became disturbed at the prospect of a long journey without pictures. On several occasions in the past I had projected pictures for the Captain, so I felt free to approach him with our plight.

Short Stays in Port

A radio message to Washington promptly brought authority to have cameras aboard for the duration of the cruise. Special airmail letters were soon speeding to the States requesting that cameras be shipped to Charleston as expeditiously as possible and filmers were happy once more.

Shortly after our arrival at the South Carolina port the itinerary of the coming trip was published. Finding that most of our stops at foreign ports would be limited to a few hours I decided upon a simple plan of action.

Each port would be filmed as a sequence, while each voyage en route would be another, and as the latter would involve days of travel much opportunity to portray the sea would be afforded me. A fading glass was used to fade in and out of each sequence which proved very effective in procuring the desired effect.

Although wintry weather had descended on Charleston I managed to start my travel pictures by obtaining shots of historical buildings and local color, and as we steamed to sea I se-

cured shots of the city water front, finally fading out on Fort Sumter.

Fading in on the U.S.S. Indianapolis framed by an open port began my first shots of the sea and many pictures were taken as we passed the West Indies en route to Port of Spain, Trinidad.

Our ship anchored about two miles from that port, so I began my operations by picturing the first liberty party proceeding to the docks by means of motor launches, to be followed by various views taken in the tropical city consisting of street scenes, two-wheeled carts drawn by a single pony with the driver standing upright on the vehicle in charioteer style as it rattled through the street, while native women gracefully balancing huge loads on their heads threaded their ways unconcernedly through the throng interspersed with street vendors conducting a desultory business with occasional customers.

The return trip to the ship concluded my recording of Port of Spain and my next underway scenes brought us to the equator, where King Neptune came forth to harry the luckless Pollywogs by an initiation that would convert them to the rank of Shellback, or one who had crossed the line.

Shellbacks Haze Pollywogs

The day prior to our arrival at the equator found the Shellbacks mildly hazing the Pollywogs, and many shots were recorded of their antics. That evening found Davy Jones aboard to secure a record of all offending Pollywogs, and by the beam of a ship's searchlight this emissary of the Ruler of the Deep was depicted on film as he started his activities.

On the following morning many unhappy crew members were confined in irons or wooden stocks awaiting the arrival of King Neptune, who soon entered the scene with his Queen, the Lady in Waiting and the Royal Baby, to be followed by his retinue consisting of G-men, Cops, Bears, Doctors, Barbers, a blaring

band and a host of other retainers all appropriately costumed to fill their parts.

An honor guard composed of junior officers received his Royal Nibs as he approached the Captain, who turned the ship over to the Sea King. Immediately the Skull and Cross Bones flag of the Sea Rogue was run up on the mast after which the King and his minions paraded about the decks before the former mounted to his throne, which had been built on one end of a raised platform installed on the quarter deck.

A huge tank full of sea water occupied a space to the front of the platform. Barber chairs that would flip back and deposit luckless victims into the water were in readiness for the proceedings that began by the first offender being thrust before the judges.

Drinks from Bottle

As the charge of being a rank landsman was read by the presiding judge, the hapless man was harassed by the Royal Devils, who applied electrically charged forks to his bare feet, bringing forth an impromptu dance.

He was then forced to crawl before the King, and while a henchman passed an ancient fish over his face and the Royal Baby insisted that a sample be taken of the bitter contents of a milk bottle, the Ruler confirmed the fate of this person, which proved to be that of all Pollywogs.

Then, seized by the Royal Doctors, he partook of bitter pills as they hovered over him with saw and knife while the Royal Dentist attempted to extract a

tooth with a rubber chisel and mallet. Next taken in charge by the Royal Barber, we find the victim pinioned in a chair, and while a lock or two of hair is snipped with a huge pair of scissors an assistant brushes the helpless fellow's face with an odorous composition of water, flour and blacking, quickly transforming his complexion.

A flip of a lever tilts the chair backward toward the water in the tank and the luckless one flies heels over head into its depth to become the victim of the Bears, who duck and torment him in his efforts to escape.

Finally climbing out he is assisted by other Shellbacks with the aid of padded clubs into a canvas tunnel and is forced to crawl through a mess of garbage and broken eggs to emerge into the open air to find that he is now a qualified Shellback and immune to further punishment.

A large Neptune certificate with a facsimile of President Roosevelt's signature as senior Pollywog was presented at a later date to be safely guarded for future crossing of the equator as a guarantee against further hazing. Thus ended this interesting sequence of an age-old tradition of the sea.

Colorful Scene

The next scenes bring to view our entry into the harbor at Rio de Janeiro, Brazil. A huge crowd was on the docks to welcome the ships as they slowly eased into their berths. A flag-waving ceremony was in progress conducted by school children, and a large band supplied rhythmic music.

Ashore we found a battalion of soldiers resplendent in red, blue and gold

tunics, white trousers and cockaded hats, while a close-up of their feet revealed that white spats were an innovation not heretofore seen in the military. Various pictures were taken of this unit as it quick-stepped up the main street headed by a martial band and officers astride prancing chargers.

Several street scenes were secured to be followed by a long wait in a crowded avenue for the President to pass. Excitement reigned as a siren announced the arrival of the procession. Armored motorcycles with side cars containing armed soldiers burst on the scene to be followed by the car containing the Chief Executive and staff. However, the speed was so great that only a few frames in passing were procured, and our disappointment was only tempered with the hope that better luck would be with us next time.

Telephoto Candid Shots

The next phase of our journey consisted of underway scenes en route to Uruguay and included the arrival of the Argentine fleet which came to escort our ships to port. The Indianapolis temporarily parted company with the Chester to proceed to Buenos Aires while we remained at Montevideo, Uruguay.

Our arrival at the latter city was recorded with the metropolis vignettied by an open port as we slowly steamed toward our berth. Many people were present to greet us as we tied up. During our stay I derived a great deal of pleasure in taking candid telephoto shots of the citizens as they inspected the exterior of the ship while I remained hidden within the interior as I filmed through an open port hole.

Many local scenes were taken and upon the return of the other vessel we departed the harbor with thousands of people on hand to speed us on our way.

More sea views were taken on the return passage to Trinidad and several ships' activities were included to be followed by our arrival at Port of Spain. Local shots were taken of the inhabitants to be followed by a parade in which President Roosevelt took part. This time I secured a vantage place on the balcony of a corner building and procured ample footage of the President as his carriage slowly moved in my direction.

The recording of our return to the ship was soon followed by our departure for Charleston. Ocean scenes taken en route faded into our arrival shortly after which the President parted company with his ship. Then out to sea, this time headed for Panama, Long Beach and home.

The transit of the canal was recorded with telling shots of the procedure as we slowly moved from the Atlantic to the Pacific. Many views were taken of passing ships, dense jungle growths along the channel, hydraulic and dredging operations and waterfalls.

A visit of short duration to Panama City permitted me to shoot waterfront

(Continued on Page 396)



Here is shown a camera crew seeking to locate an expensive camera tumbled from a raft in the rough water near Cave Falls, Idaho, during the making of MGM's "Northwest Passage." Roger Mace is on the pole. He is equipped with earphones as are also a crew working with a field intensity instrument. Later the crew will discover the location of the camera through the peculiar metallic note thrown out when the pole comes in contact with it. The photo was taken by A. B. Hager, manager of the Rex Theatre, Idaho Falls, Idaho.

Canadians Pack Sports Arena to See Duncan Little's Film of Race

By DUNCAN MacD. LITTLE

YOU may be interested in this enlargement of a Brownie time-exposure showing the "theatre" in which I was called upon to give a show on the evening of July 30, at Shawinigan Falls, Quebec, writes Duncan MacD. Little, in a personal letter we'll take the liberty of printing.

The camera used was a Brownie which cost my friend Tom Andrews either \$1.69 or \$1.89 many years ago, and which has been doing good service ever since in all parts of the globe except Australia.

The film projected was "Voyageur's Trail," to which the Cinematographer awarded honorable mention last year, and which, in the valley of the St. Maurice, as perhaps you may believe, is considered as being practically the most important picture ever made.

This building, which is the new sports arena, is approximately the size of Madison Square Garden without the galleries. Each block of seats on either side accommodates about one hundred and eighty or two hundred persons, and behind where the camera stood are seats for some eight hundred more.

The projector was set on the balcony in front of those seats (there is not a similar balcony in the back of the arena), and the "throw" was about one hundred and seventeen or eighteen feet, the screen being 22 by 16 feet, and a perfect picture was projected.

The entire floor area to within ten feet of the screen was jammed, there being 1250 chairs, and as many persons standing as could be accommodated. In addition, boys, and even men, had climbed into the rafters, and according to the newspapers more than a thousand were turned away.

The screen would shock any projectionist, amateur or professional, for it consisted of a rough framework of boards, on which was laced the mat from the boxing ring, and that was covered with cheap muslin that cost ten cents a yard.

Crowd Was There

When I first saw the building my thought was "Good Night! What are we going to do?"

The next time I saw it, the crowd was there and had been there for almost an hour waiting for us to arrive to put the show on. In the meantime they had been amusing the throng with phonograph records through the loud speakers.

We set up our apparatus as fast as possible, using my own double turn-table, and amplifiers and speakers, but on account of the crowd had to place the speakers alongside of the projector.

The picture as it showed on the screen

was truly remarkable, and Messrs. Bell and Howell would be proud indeed had they been present to see what their 130 Machine could do. Naturally we used the new 1200 watt lamp.

In your last book I read that the new Arc Light Projector had been developed to take care of a required "throw" of one hundred and twenty-five feet. That didn't need to be it. The stock machine, Model 130, is fully capable of handling the job. We used the normal two-inch lens.

It seems to me quite likely that you might wish to make mention of this exceptional test to which the machine was put, and if you do I wish you would add that we were loaned the machine by the Associated Screen News of Montreal, through the courtesy of Mr. Reeve of Bell and Howell, thereby saving us one bulky and heavy piece of equipment to be transported from New York to St. Maurice Valley.

While in Canada for the canoe race I put on two other shows, both out-of-doors, using a ten foot screen.

One was to an invited group of about one hundred and fifty, and the other was a decidedly impromptu affair, but there were present six Indians who never before had been in civilization. It was too bad that of all the people present only one had my knowledge of the Attakamae language, for these Indians spoke no word of English or French, and their amazement and wonder at seeing themselves, for two of

them were in the picture, were tremendous.

Let me correct the above; one of these, old Charlie K-8-ishish, who had been in the race for the last two years, had learned two or three words and was able to say "Me like."

And the Stills Are Still With Us

(Continued on Page 378)

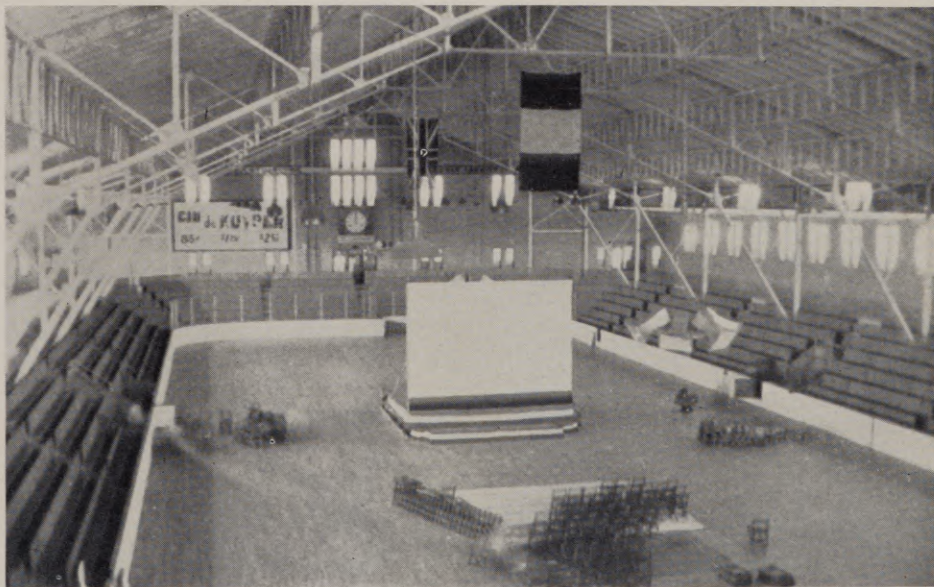
movie field rather than a bare two years in that division so clear are his results.

"Although our first publication and the colored motion pictures are both on the subject of the growth of plants in nutrient solution, our league is formed for the dissemination of all the latest developments in the field of plant science," writes Mr. Heron. "To reveal these astonishing achievements unusual opportunities are afforded the amateur photographer to acquaint the public with the progress of scientific culture. It is the intention of the league to foster such a program."

We shall have more to say on Mr. Heron's pictures in the next issue.

At the August meeting of the Tri-City Movie Club in Moline, Ill., on the 23d, we are kindly informed by W. W. Brubaker, Orrin T. Sibley talked on "Exposure," which was followed by open forum. Miss Georgia T. First showed a 16mm. Kodachrome of 1600 feet length, "Cine Wanderings in Alaska and the Canadian Northwest."

The Camera Pictorialists of Los Angeles, Fred Archer director and Larry Lewin secretary, announce its Twenty-second International Photographic Salon will be shown in Los Angeles Museum, January, 1939, and in M. H. De Young Museum, San Francisco, during February, 1939.



New sports arena in Shawinigan Falls, Quebec, reproduced from Brownie enlargement, where Duncan MacD. Little of New York projected his "Voyageur's Trail," photographed in the neighborhood the year before. The house was crowded literally to the rafters and a thousand turned away.

How to Control Lighting Without as Well as Where Sun Is Barred

By WILLIAM STULL, A.S.C.

NOW that the weatherman again is giving us more enticing opportunities for outdoor filming, home filmers should ask themselves one very important question. Do we or do we not carry with us what we have learned about cinematic lighting, now that the sun, rather than a group of photofloods, supplies the illumination?

It is far too easy to make the mistake of thinking that controlled lighting deals only with interior scenes, and to take whatever lighting nature—and chance—offer when filming outdoors.

If you will study the exterior scenes in any professional film you will see that the studio cinematographer never does this. Of course, in home films we can rarely employ all the extensive artifices the professional uses for controlling natural light. But by selection and reflection we can do a vast deal to improve the quality of 16mm. and 8mm. exterior scenes.

Fundamentally, we have a choice of three basic angles of simple, natural lighting. The first (Fig. 1) is the familiar flat front-lighting prescribed in the elementary snapshot-camera instructions. The sun behind the camera, shining full into the subject's face.

Interesting Variety

There are times, especially in Kodachroming, when this is desirable. But for the most pleasing effect in black and white, especially in photographing persons, this flat lighting is generally the least favorable and the least pleasing.

Next we have the far more pleasing cross lighting (Fig. 2). In this the light shines across the subject—either directly

across or at an angle. It gives a highlight side and shadow side, conveying a more natural relief to the picture, and, in the case of a moving subject, interesting variety.

This is probably the best all-around simple exterior lighting. Care must of course be taken to expose so that the shadow side receives ample exposure to avoid unnatural, opaque shadows.

Finally we have the back lighting (Fig. 3), the effectiveness of which most of us have probably explored already in filming interiors. In this the sun is behind the subject and produces an outlining highlight along one or both sides of the figure, effectively separating figure from background.

This is relatively difficult, for the direct rays of the sun must be shielded from striking the glass surfaces of the lens (they would produce flare) and the exposure must be made for the shadowed front of the subject, which often necessitates overexposure in the more strongly illuminated background.

Plywood 3 by 2—or 3

As can be seen, there are definite limitations to what we can do with unaided natural lighting. But it is possible to use reflectors to redirect natural light with almost as much precision as we would direct the light of a photoflood.

Reflectors are simple enough to build. All that is necessary is a reasonably large flat surface coated with some material capable of reflecting light.

A simple construction is one using a sheet of plywood perhaps three feet long by two or three wide, with a protective frame like a crude picture frame around

the edges, partially to protect the reflecting surface. Such reflectors can advantageously be made double, with two units hinged together so that they fold compactly like a book, but open up to a useful spread.

The reflecting surfaces can be made in any of several ways. For the most potent or "hard" reflectors, the surface can simply be covered smoothly with tinfoil, aluminum foil or gold foil. This reflects a definitely strong beam. The silvered reflectors are best for color, while the gold are excellent for use with panchromatic film.

For a more diffused reflection, the reflecting surface can be simply sprayed with aluminum paint. This gives a soft, much less intense light which is more pleasing in lighting close shots of faces.

It is a good idea to make your reflectors capable of serving double duty, with a "hard" reflecting surface on the front side and a "soft" reflector on the back.

Since we rarely have any too much help in amateur picturemaking, reflectors should be made self-supporting. The simplest way to do this is to hinge a pointed stick to the top of the protecting frame, so that it can serve as a prop. This support should be longer than the reflector, so that the reflector can be used conveniently at any angle necessary, from an almost horizontal position to one nearly vertical.

A still better idea, and one more in keeping with modern professional technique, is to make an adjustable, L-shaped hinged brace, the bottom element of which is fitted with a screw socket so that the device can be placed on a tripod.

This will give a reflected light from a higher angle, striking the subject level, or even from above, and avoiding the unnatural effects of reflection from beneath.

But supposing we have reflectors, how shall we use them?

Chasing Shadows

To put it in a nutshell, simply use them to illuminate shadow areas which might otherwise be a problem. This does not mean to eliminate shadows, for the interplay of highlight and shadow is what lends attractiveness to any picture. But the reflected light can equalize highlight and shadow illumination to bring them within range of the latitude of film and processing. This is especially vital in color.

The most obvious, of course, is a use

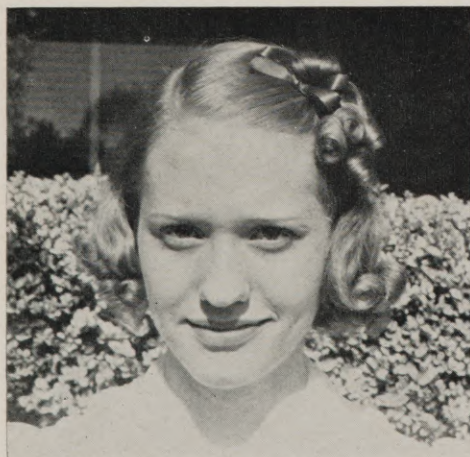


Figure 1

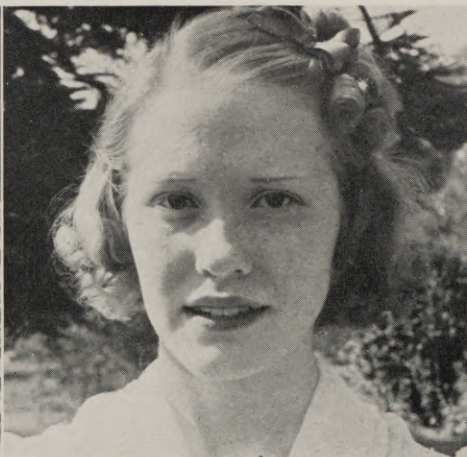


Figure 2

such as shown in Fig. 4, where a reflector lightens up the shadow side of a back lighting. (For purposes of illustration, this was done with a "hard" reflector, which is really too intense for the best effect, as it is too obvious.)

The contrast in the photographic value of the face in this and in Fig. 3 will be at once apparent. Notice, too, the effect this has in equalizing the exposure values of subject and background.

Of course the same idea will work just as well in lightening the shadowed side of a cross-lighting, as in Fig. 5. Again, the aim should be to lighten the shadow, rather than to eliminate it.

But there are infinitely greater possibilities to reflection than these simple ones. For instance, even with one reflector the angle of reflection can be varied to provide outlining highlights—even backlights, wherever desirable, with almost the same freedom we would have

or back light when working in deep shadows, on porches or the like.

Above all, do not forget that light can be reflected obliquely from a reflector—especially a "hard" one—with the result that the reflector can often be used either beside the subject, or behind it, without either being in the picture or throwing its rays, as might at first be feared, into the lens.

The real secret of using reflectors cannot be described; it must be experi-

enced. And actual use will prove that using reflectors is quickly and easily learned, and better, that the results of using this simple tool can add immeasurably to the visual effectiveness of anybody's films.

They are a tremendous help in ordinary black and white filming, but their greatest value is perhaps in color, where the aid of reflected light can go very far to expanding the inherently narrower latitude of all color processes.

Stith-Noble Scores Advance in Matching Quality in Kodachrome

THE Stith-Noble Corporation, pioneer in the field of duping Kodachrome films, has made what it believes to be a distinct advance in the difficult task of matching photographically the original in color film.

Richard Stith of the company, who during the month showed the duplicate of a short subject photographed by Hugh Coburn of the staff of Western Air Express, insisted that while the unusually brilliant 16mm. picture he had just put on the screen was not the last word, nevertheless he was satisfied those expert in the particular field of recapturing the notable features of reversal film readily would concede the duplicate constituted a distinct advance.

The subject was a bit of travelogue exposed in Glacier National Park. There were snow-patched mountains, tumbling streams and the brilliant cloud-flecked skies that reflect altitude. The white of the rapids and of the snow really were white. The sky really was blue. In sharp contrast with the latter was the light shade of blue that marked a part of the holiday garb of one of the troupe of dancing Indians.

Another notable sequence in the subject was the gathering of tourists with a wide range of color in costume.

Stith explained the screened quality was no accident but rather the result of much experiment and research on the part of the company.

"Distinctly what we have is not the end of our journey, but we feel confident it does constitute a milestone," he added. "And you know faithfully matching Kodachrome in 16mm. is one of the really tough jobs in this business of ours." Asked as to the quality of the original from which he worked he declared: "Beautiful."

"Skyways to Nation's Playgrounds," a half hour show in 16mm. color and sound which Western Air Express has completed, is now ready for exhibition by any approved organization.

Calls for More Films

The Czechoslovakia film advisory committee, which is attached to the Ministry of Commerce, approved the entry into Czechoslovakia of fourteen feature films of United States origin during May, 1938, compared with only four during May of last year, according to a report to the Department of Commerce from the office of the American Commercial Attache at Prague.



Figure 5

with photoflood units indoors. Properly placed reflectors can reach under the ordinarily heavy shadows cast by hats, brims, and also eliminate the shadow pools hiding overly deep-set or small eyes.

If we have two or more reflectors, we have yet greater possibilities. For instance, in a backlit scene, we can use a hard reflector on one side and a soft one on the other to produce the same sort of modulated interplay of highlight and shadow we would get in a cross lighting, plus the outlining rim characteristic of the backlight.

Bending Sunlight

Finally, it is often a valuable ace in the hole to remember that light cannot only be reflected but rereflected as well. Using a series of reflectors we can—as the professionals often have to do—bend sunlight around several corners to reach finally into spots no simple reflection could reach.

Simply set a "hard" reflector in the direct sunlight, and reflect its beam on to another reflector—either "hard" or "soft" as the occasion demands—from where the light can be rereflected on to the subject. This technique easily can provide us with front light, cross light



Figure 3



Figure 4

Two Manufacturers Suggest Still Cameras as Auxiliaries to Movies

COMBINING the use of still cameras with motion picture cameras is a subject receiving more and more attention from manufacturers of the latter as well as from those companies which have made still cameras from the first.

Last month we received a letter from the editorial service bureau of the Eastman Kodak Company which indicated how that company was planning along new lines.

"Nearly all moviemakers feel the need of a moderately priced auxiliary still camera," suggested the writer. "The uses for such cameras are innumerable, limited only by the filmer's ingenuity and range.

"Ideally, the auxiliary camera should be small, compact, equipped with a reasonably fast lens, and suitable for Kodachrome. This obviously restricts such a camera to two sizes—those using 35mm. film and the slightly larger 828.

"To meet these requirements the Eastman Kodak Company has just announced two new Kodak Bantams, with color-corrected lenses of suitable speed—Kodak Bantam f.5.6 and Kodak Bantam f.4.5.

Auxiliary File

"An added advantage to the movie-maker, who will make relatively fewer stills, is that these models use eight-exposure rolls in the 828 miniature size instead of eighteen-exposure magazines. This feature makes it easy to complete

a Kodachrome roll in one filming session, and send it in for immediate processing, all of which is desirable.

"Simplest use of the auxiliary is to build up a file of prints or color slides as an accompaniment to the movie record. Such a file is convenient, in that pictures can be viewed at any time without the need of setting up screen and projector. But even more important is the camera's function in actually helping to improve one's motion reels.

"A still camera can be made to give yecman service in the matter of collecting title backgrounds 'on location' at the same time the movie is being filmed. Prints from the still negatives, properly enlarged and cropped, can be lettered or used in the titler behind changeable lettering, to provide backgrounds that tie directly into the ensuing motion scene.

Background Use

"Kodachrome stills serve in the same fashion—providing not only a source from which black-and-white negatives may be made for producing background prints, but also easily viewed color guides for tinting the background enlargements.

"In certain cases, when light is too poor for your movie lens equipment, stills can be made, and later introduced into the movie record. An example would be a night scene without moving objects, so dimly lighted that a time exposure might be necessary. This scene

could be pictured with the still camera and a print made for rephotographing in the titler—and thus incorporate it in the movie reel.

"Stills from the auxiliary camera, made up in 2x2-inch slides, are especially useful when a slide projector is available to supplement the movie projector."

From its Public Information Department comes word that the Bell and Howell Company, which more than a year ago took over exclusive sales rights in eleven Western states to the Exakta line of still cameras, has been doing some expanding in the same direction.

The company has added five more states to its list. Where the eleven referred to are served from the Hollywood office, the added five—North and South Dakota, Nebraska, Kansas and Oklahoma—are being serviced through the home office in Chicago.

In Line with Trend

Thus a company known since 1907 as manufacturer and promoter of motion picture equipment exclusively appears on the horizon as a new factor in the "candid camera" market.

Questioned regarding this near revolutionary activity in the still camera field, a Bell & Howell official stated the company had been experimenting for some time in the supplemental use of stills with motion pictures for both personal and educational purposes.

It was pointed out that whereas the fundamental characteristic of motion pictures is action, fine scenic "stills" in either black and white or natural color could be taken "on location" and projected as supplements to the motion picture action.

In educational work, for example, movie projection could be stopped at a certain point while a still or series of stills were shown, permitting elaboration on some special scenic point by the educator.

In personal application it was shown that the individual carrying both a motion picture camera and still camera on a trip or vacation could concentrate his movies on essential action scenes, snapping supplemental stills of scenic landscape views as they appeared worthy of additional record.

The Exakta line of cameras was demonstrated as offering an ideal choice for such use. To those wishing to take black and white or natural color stills mainly for projection purposes, the Kine 24 by 36mm. Exakta, using multi-exposure 35mm. spools, is recommended. The V.P. 4 by 6.5cm. Exakta is recommended to those desiring mainly to obtain stills for printed enlargement.



Kine Exakta, distributed in sixteen states by Bell and Howell, equipped with Zeiss-Tessar F/2.8 lens.

Eastman Releases Three Minicam High Speed and Fine Grain Films

THREE new films for miniature cameras, using 35 mm. and No. 828 films, representing what is believed by the creators to be one of the great achievements and advances in film manufacturing, are announced by the Eastman Kodak Company.

With the ever increasing popularity and use of the miniature camera Eastman film experts realized the fact that films for use in miniature cameras should be made equally efficient for use by daylight and artificial light and must be developed to a higher contrast than the negatives used in the professional motion picture field.

This resulted in the introduction of the three new films which are virtually "custom made" for use with miniature cameras.

Seeking Consistency

The important characteristics in any film are not only high speed and fine grain, but exposure latitude and good quality, that is, the ability of the film faithfully to translate the scale of light and tone values existing in the subject into monochromatic values in the print.

Another factor of importance to the photographer is the uniformity of the product so that consistently good results may be expected.

This has been accomplished in these new films.

They are Kodak Plus-X Panchromatic film, which has about twice the speed of Kodak Panatomic and about 50 per cent faster in sunlight and artificial light than Kodak 35-mm. Super Sensitive panchromatic film. It is also somewhat finer grained than the regular Kodak Panatomic. This film is recommended for general use in miniature cameras.

Panatomic-X, a film of ultra fine-grain for enlargements of great magnification. This film possesses even finer grain than the fine grain that has made the original Kodak Panatomic film so popular with users of miniature cameras.

Graininess at Minimum

Panatomic-X has the same speed as Panatomic. The fineness of grain, however is equal to that which was formerly obtained only by the use of special fine grain developers, which reduced the effective speed of the film.

Graininess is, in fact, so low that with the new film enlargements can be made of a size which will exhaust the sharpness of images before graininess is visible.

Kodak Super-XX Panchromatic film is the fastest Kodak film ever supplied the miniature camera user. It has about four times the speed of Kodak Panatomic and more than twice the speed of Kodak

Super-X Panchromatic in sunlight and artificial light, with grain kept at a minimum.

It represents, therefore, its maker's belief to be the finest film available for all types of miniature photography under difficult lighting conditions. Maximum emulsion speed is obtained by developing fully in the Kodak developer D-76.

With Kodak Super-XX, camera enthusiasts can now get clear detail shots of floor shows, boxing and wrestling bouts in sport arenas and the high spots in basketball and other flood lighted indoor sports.

Each of these three new Kodak-35mm. and No. 828 films has great exposure latitude, freedom from halation and a balanced sensitivity to light of all colors.

The purpose of the new Kodak films is to give the miniature camera worker film especially adapted to his needs and enable him to get the best possible results from his equipment.

Bluish Gray Support

In order to reduce the effects of halation to negligible proportions, the films are coated on a support which is of a bluish-gray color. Although the developed negatives retain this color, there is no necessity for increasing normal printing exposure times.

The new films are fully panchromatic. They have a very high sensitivity to red light, and in addition they have been especially sensitized for the green. They do not, therefore, give overcorrection to red objects, such as cheeks and lips, which is characteristic of films which have their main sensitivity in the red.

Exposure latitude is another important factor in film. In order to be able to get prints of good quality it is imperative that negatives should record the whole range of tones likely to be encountered in outdoor and indoor subjects. The three new Kodak films are especially prepared with this in mind.

The films are coated to insure proper recording of shadows and the middle tones and to give gradation in the dense highlights when exposure is full. Even if exposure exceeds the normal level by a wide margin, negatives of good printing quality will result.

Weston and Eastman Ratings

It is possible to overexpose these new Kodak films to the extent of a hundred times the minimum exposure necessary to provide a reasonably good print. Of course, such overexposure should always be avoided if the finest grain is required.

Official Weston rating on the three films is as follows:

	Daylight	Tungsten
Super XX	80	50
Plus X	40	24
Panatomic X	32	20

Official Eastman Statement

The following Eastman ratings for the Weston and General Electric meters are recommended for Super XX, Plus X, and Panatomic X film in an official supplemental Eastman statement:

WESTON

	Daylight	Tungsten
Super XX	80 128*	50 80*
Plus X	40 64*	24 40*
Panatomic X	24 40*	16 24*

GENERAL ELECTRIC

	Daylight	Tungsten
Super XX	128	80
Plus X	64	40
Panatomic X	40	24

*The use of these numbers will give somewhat less dense negatives, preferred by many workers. Ratings for the General Electric Meter may be increased proportionately.

"The values in the left-hand columns do not represent the least exposure which will give the best possible prints," explains the statement. "They include a safety factor to take care of variations in the use of the exposure meters and in the handling of the photographic materials. On the average the exposure called for by these numbers is more than twice that actually required for the best possible prints, but decreasing the exposure by that amount is not recommended unless the operator is thoroughly familiar with the characteristics of his exposure meter and of ordinary dark-room practice. The numbers with asterisks represent a safe decrease in exposure under these conditions.

"Under adverse lighting conditions passable prints can generally be obtained from negatives given one-eighth the recommended exposure. On the average, however, excellent prints will not be obtained from negative exposures made at a meter rating of more than twice that indicated, which for Super XX and the Weston Meter would be 160. To make sure that every negative receives enough exposure to yield the best possible print, a Weston rating of 80 is recommended.

"Of course there must necessarily be a good deal of latitude to any such recommendations to take care of individual differences both in equipment and in its use. There are both meter and shutter variations to be considered as well as the use of the meter. The type of developer and the extent of development are also factors. It is highly recommended, therefore, that the advanced amateur conduct a few experiments based on the above suggestions."

Study Your Cine Titler and Note Variety of Close-Ups It Reveals

When Adaptability of Common Everyday Device Is Known Then Will Mechanical Gears, Timepieces, Flowers, Insects and Even the Black Widow Be Recorded for Friends' Entertainment

By ROBERT W. TEOREY

MOST amateur cine-shooters own a small metal titler that is used now and then to simplify title problems. When it has been used for that purpose it is generally placed away with the rest of the gadgets to be forgotten until another title problem presents itself without a single thought being given to the other potentialities the contraption may possess—that mainly because many are unaware of the other uses to which this simple device may be put.

A large proportion of the movie cameras in use employ as standard the fixed focus lens which limits close views to a distance of several feet, while the majority of those with focusing mounts permits the lens to be set to a nearness of two feet.

It is thus easy to visualize that without auxiliary aid close-ups are limited to objects of fair size. Your lens limitations now afford the opportunity for your titler to prove its versatility.

It is common knowledge that a titler is merely the means to center and focus your camera lens on a given field several inches away which is made possible through the aid of a supplementary lens affixed in a standard at the correct distance from the title holder or easel.

An examination of my title mask revealed that I could film an area approximately 1½ by 2¾ inches. Just cogitate awhile on the smallness of this space and in that connection on the possibilities for creating extra close-ups of various diminutive bodies with the aid of your titler.

Give It a Whirl

Then—give it a try. You will be astonished at some of the exceptionally striking results achieved. A variety of hitherto unthought-of subjects will become part of your future cinematic efforts. To list a few, mechanical gears, time pieces, flowers and insects can be recorded on shimmering celluloid ribbon with a modicum of trouble.

To begin, secure your camera to the titler in all respects in accordance with instructions for titling. Then finding a suitable picture medium judge your light for exposure as usual and set the diaphragm accordingly.

Your next step is carefully to center your subject within the borders of the title holder. This is very essential, as the picture area is small and the depth of focus limited to a very short distance in front of and behind the easel. The focal depth varies according to the size of the aperture and for that reason it is advisable to shoot only when the lighting permits the smaller openings to be used.

Far from detracting from your picture, the shallow focal depth has the advantage of separating your subject from the background, and imparting to your shots the unusual depth often seen on the professional screen and so seldom on the amateur.

Holding and operating this combination in your hands will be slightly awkward at first, but as the view finder is not used it will take but a very short time for you to become accustomed to it.

Just Around Corner

The adaptability of my titler to other expedients received my earnest consideration about two years ago when I invested in my first roll of color film. I had the urge to learn about color by shooting the unusual and wracked my brain for an inspiration that failed to materialize.

Finally Mrs. Teorey suggested that I might discover the extraordinary in an adjacent vacant lot which was overgrown with shrubs, weeds and flowers with a few tin cans scattered about.

The suggestion was scorned until she mentioned the insects that might be found so close at hand. The notion so intrigued me that I immediately sought for some method satisfactorily to photograph them. An examination of my titler quickly convinced me that my problem was solved.

Many have thrilled to Frank Buck's "Bring 'em Back Alive." I too brought 'em back alive that day, and in addition to getting some excellent shots I had the thrill of the hunt as well as the irksome wait involved in shooting my quarry in its natural state.

Wasps, bees, spiders and a grasshopper were recorded in color as well as the lowly garden snail, which established itself as being an interesting

actor not in the least temperamental, as were the bees and wasps.

The most exasperating to shoot was the wasp. In the rear of the lot was a castor bean tree that appeared to be a rendezvous for wasps as they circled about the yard. Observing closely, I perceived that a specific leaf seemed to be a favorite with them so judging my exposure, I sat down on a nearby rock, centered the leaf in my titler easel and commenced my wait.

Patience Necessity

To my chagrin the wasps selected an adjacent leaf; shifting, I was further at least annoyed to find them alighting on the former again. I returned to my original position resolving that patience was a virtue to acquire at once and finally I was rewarded with a shot of a very busy wasp.

Bees were less difficult to capture on film. A patch of clover gave me a perfect setting and waiting in the midst of the blossoms until a honey-searching bee dropped on flower was just a matter of moments.

A spider with its symmetrical web strung on the twigs of a bush next involved me in a filming task fraught with the danger of disturbing him into vanishing. It had captured a small bug and was engaged in wrapping it in weblike substance.

In order not to injure the silken strands and frighten my camera prey I finally had to lower my titler easel and judge the picture center as closely as possible without its aid. I was quite satisfied with the result.

Grasshoppers next became the objects of the hunt. A diligent search finally brought one to view enjoying a meal from the edge of a tender leaf. It was apparently unmindful of the whirring of my camera as the film chased through the sprockets during the photographic recording of its activity.

Snails Good Subjects

Searching near the roots of some geraniums revealed a number of garden snails reposing in the coolness of their retreat. Placing one on a plant seemed to be incentive enough for it to emerge from its shell protection. It would then

slowly pull itself along as it nibbled on tender shoots found in its path.

Better composition was possible with snails as they weren't camera-conscious and lacked the ability to fly away. Furthermore, they could be placed in any setting desired.

I experienced a great deal of pleasure in photographing this type of life with my cine camera and titler and the pictures I secured more than recompensed me for the time and patience entailed in the hunt and filming.

For those who wish to capture insects and film them in a setting of their own creation a shallow cardboard box slightly larger than the area outlined by the titler mask may be constructed. The background in this may be made to appear natural by covering it with leaves and small flowers held in place by sewing with needle and thread.

The camera side should be closed with a piece of clear celluloid or glass, and when shooting care should be taken to prohibit light reflections therefrom into the camera lens. A cardboard fin glued to each end will permit the receptacle to be fitted to the easel of the titler by means of the spring back on the device. The tiny stage may then be centered with the aid of the regular title mask.

Opportunities Open Up

I used a similar expedient in filming the action of a black widow spider, using a photoflood bulb as my light source. The only drawback to me in filming this particular denizen was in being shunned by Mrs. Teorey, who labored under the misapprehension that black widows were to be found in my pockets. However, the shots were very satisfactory.

Beautiful views of flowers may be made much in the same manner required in shooting insects in the open. Unlike the latter, the task is exceedingly simple and requires only correct lighting and centering within the title holder.

Scenario stories often require the hour of day to be established. Your titler will assist you in getting a perfect close-up of your watch. Perhaps your story necessitates the effect of the arch villain peering through a keyhole.

A slightly exaggerated keyhole cut in dull black paper fitted into the easel and low key lighting will create the desired impression as the actor squints through the hole toward the lens. A burning cigarette might be the clue as to "who done it" in your mystery thriller. The titler scores again.

Interesting experiments can be made by those possessing telephoto lens. Substituting for the standard objective and using my titler I found that an area slightly more than half an inch in width could be filmed. A shot of the movement of my wrist watch produced absorbing action of the balance wheel in motion, while another of the dial flashed a view of the second hand making the rounds.

This lens and titler combination should work excellently in taking pictures of ants and other minute life or

objects. Additional ultra close-ups are limited only to the amount of exercise you wish to give your imagination.

In summing up, the attempt here primarily is to illustrate methods of using a piece of equipment very likely in your

possession and idly catching dust until another title is required. With the least of exertion it can materially add to the scope of your cinematic operations and assist in bringing to the screen pictorial presentations rarely enjoyed.

Eastman Kodak Issues 230-Page Book "How to Make Good Movies"

IN Eastman Kodak Company's "How to Make Good Movies" there's a new book which should be welcomed by every amateur movie maker whether he is young or old in experience.

Two hundred and thirty pages are packed full of information which does not befuddle the reader with a maze of technical terms, pie charts, diagrams and other such brain twisters. It's written for the tyro, or his more advanced neighbor, who wouldn't give two hoots to know how film is made, how it is processed—or even why—but has yearned for helpful ideas on taking and showing trouble-free home movies.

"How to Make Good Movies" is written in a simple, down-on-earth manner and for one purpose—to help the thousands of amateur home movie fans make the kind of movies they have perhaps visualized but haven't known just how to go about getting.

The book isn't a sermon. It isn't filled with pages of "Thou shalt nots," but it does tell of a thousand and one things you can do with your movie camera whether it is 8 mm. or 16 mm.

What It Has

The book is generously illustrated with enlargements made from the films of amateur movie makers, along with others which may be made by mother, father, junior or sister.

Just a brief idea of what you will find in the book:

Focusing is briefly yet amply cared for, while exposure is dealt with from A to Z. After reading this chapter you probably won't need it, but for good measure and additional aid pocket size exposure guides—one for regular daylight Kodachrome and one for Type A, for artificial light, are packed with each book.

In the language of the amateur, film, filters and lenses are thoroughly explained, the latter excellently illustrated with movie shots made with the several accessory lenses discussed.

Composition, the bugbear of many amateurs, is effectively but simply handled and should prove to be very helpful to the amateur who is really interested in improving his movies to the point where his friends will say, "Gosh, that's a swell shot."

Tells of Playmaking

Then, there's a chapter on Kodachrome, illustrated in color. "Movies at Night" sheds the light of day upon

nighttime filming—not only in the home, but out of doors and in sports arenas.

"Trick Shots" goes the limit with all the many stunts which can be accomplished with the ordinary movie camera. "Playmaking" not only tells you how to film little movie skits but also gives several outlines assuring easy filming and enjoyable showing.

"Titling," an important factor in adding interest to home movies, first describes the several ways to avoid making unnecessary word titles, then explains how to make, or have made, important and effective titles. "Showing Movies" recognizes and clarifies the need for devoting the same forethought to the screening of pictures that you give to their taking.

These are but a few of the main chapters. There are dozens of sub-chapters ranging from the filming of travel movies, demonstration of camera angles to the making of "dolly shots."

Considering its value to amateur movie makers, "How to Make Good Movies" is modestly priced at \$2. It is now in the hands of dealers.

Netherlands Indian Motion Picture Censorship

No American films were rejected by the Netherlands Indian Film Censorship Commission during March, one being banned in April, according to a report from the office of the American Trade Commissioner in Batavia. The latter was apparently rejected for alleged excessive violence and scenes featuring gangsters. While the film rejected was of little importance, the Commission's action shows a continuance of the tendency to prevent the showing of the old-type gangster film, emphasizing criminal activities and without other "redeeming" factors in the plot.

Japanese Theaters Filled

According to the Japanese Department of Home Affairs, more than 300,000,000 people in Japan saw motion pictures in 1937, this total setting a new record. Tokyo Prefecture headed the list with an attendance of 59,317,122. Osaka Prefecture came second with 39,024,224.

The rest, in order, are: Hyogo, 16,501,194; Fukuoka, 15,203,646; Kyoto, 14,481,072; Aichi, 12,986,540; Okayama, 10,837,562; Kanagawa, 9,960,562, and Hiroshima 5,104,827.

American Cinematographer

1938 International Amateur Competition

FOR 8MM AND 16MM SUBJECTS

CLOSES OCTOBER 31, 1938

\$500 in Cash Prizes

GRAND PRIZE\$200

Photography	\$50	Home Movie	\$50
Color	50	Scenic	50
Scenario	50	Documentary	50

NO ENTRANCE FEE
ORIGINAL FILMS ONLY — NO DUPES
NO REDUCTION FROM 35MM

THE RULES

The contest is world wide and open only to genuine 8mm or 16mm amateurs or amateur clubs.

The contest ends at midnight October 31, 1938. Entries, mailed or expressed, later than that time will not be eligible.

Pictures submitted will be judged for photography, entertainment and/or story value, direction, acting, cutting and composition.

The decision of the judges, among whom there will be prominent cameramen, will be final. Announcement of the awards will be made as soon after the close of the contest as possible and checks sent to the winners.

Pictures may be submitted either by individual amateur movie makers or they may be submitted by amateur movie clubs. Each entrant must have his entry or entries accompanied by a sworn statement, the blank for which will be forwarded to him to fill in.

Contestants may enter as many subjects as they desire. One entry blank will cover all subjects.

The American Cinematographer reserves the right not to declare a prize for any classification if in the opinion of the judges there is not a picture submitted sufficiently good to be classed as a prize-winner.

The American Cinematographer retains the right to make duplicates of such prize-winning pictures as it may

indicate, for free distribution to clubs and amateur organizations throughout the world.

If you intend to enter the contest, please send coupon on this page for official entry blank.

NOTICE TO FOREIGN ENTRIES

Films from foreign countries will be admitted to the United States duty free if the pictures are made on American made stock. If this is the case, this fact must be included in the shipment, also the information must be given that it is for non-commercial use. If the film is not exposed on American made stock duty will have to be prepaid by the sender at the rate of \$1 per hundred feet.

AMERICAN CINEMATOGRAPHER

1782 No. Orange Drive
Hollywood, California

Please send me one of your official entry blanks. I intend to enter a (16mm 8mm) picture in your 1938 contest. I understand my entry must be in your office not later than October 31, 1938.

Name.....

Street.....

Address.....

Bell & Howell Introduces Filmo 8

Candid Carrying Case for Speed

THE famous "Let's go" sequence of professional studios now can be followed through by the amateur carrying his Filmo 8 in the new Bell & Howell Filmo 8 candid carrying case, cleverly designed with a hinged drop cover which allows the camera to go into instant action without removal from the case.

Windows are provided in the snug-fitting inner case to make every camera operating part instantly accessible. Windows on right side of inner case expose

the footage dial, speed control dial and winding key. A window in the rear matches the eye position of the spy-glass viewfinder.

The left side window reveals the exposure calculator. With drop cover down in front, the viewfinder, lens and starting button are completely in the clear for action and use.

Both inner case and drop over are made throughout of double-thickness, full-grain cowhide. The color is known as Bombay, a rich dark brown. The all-linen thread stitching in goldenrod color creates a classy, decorative trimming. Fastener and buckle attachments are nickel-plated.



New Filmo 8 candid carrying case in the three phases of "candid movie" action: 1. Ready starting position, case closed. 2. Hinged cover quickly unsnapped and swung down, making camera ready for action. 3. Action, camera remaining in case.

Retail price of the case, complete with adjustable shoulder strap and swivel attachment, is \$6.

Four Nations Planning to Compete in Quadruplication

Motion picture producers in France, Great Britain, Germany and Italy plan to make pictures in four languages in an endeavor more successfully to compete with American-made pictures, according to a report published in Chile and reported to the Department of Commerce.

The article titled "motion picture war declared between Europe and North America" stated that it was the intention of the "four powers" to endeavor to replace Hollywood productions in the European markets, the report stated.

Although it is recognized that no one of the four nations is in a position to compete with Hollywood on equal terms, the article stated that concerted action of their part aided by the advantage of having pictures made in four languages, would enable them to offer competition to the American producers.

Bell & Howell Executives Get Together with Dealers

Capping a full week of business meetings participated in by Bell & Howell main office executives, Hollywood and New York branch managers, district managers and nearly a hundred visual education equipment dealers, Bell & Howell Company executives, branch and field men relaxed in a get-together and banquet at the Edgewater Beach Hotel, Friday, August 19.

J. H. McNabb, Bell & Howell president, was master of ceremonies. He stated field reports indicated excellent prospects for increasing business this fall.

The Bell & Howell business meetings coincided with a week of contact with photographic dealers from all over the nation who participated in the National Photographic Dealers' Association Convention held at the Hotel Stevens August 22 to 26.

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Agfa 17 Developer Ready

Agfa 17, a developer well known to photographers, is now available in the ten-gallon size. A new and related product being introduced along with the new ten-gallon size developer is Agfa 17A replenisher, packaged in a five-gallon size.

Agfa 17 is a fine-grain, soft-working borax type developer, popular with photographers. Although primarily intended as a fine-grain developer, it is preferred by many for general developing purposes and has been found particularly suitable for use with the new higher speed films. These preparations should prove a convenience both to the professional worker and the amateur who does a considerable amount of developing.

The developer is packed in dry, powdered form in metal cans containing two separate compartments. When properly mixed with water ten gallons of developing solution are obtained.

The replenisher is packed in a similar manner, and after dissolving in water is added to the developer occasionally to keep the tank at a constant level and maintain uniform developing strength.

Reverse Studio Lighting Methods

(Continued from Page 368)

globe up to a standard 2,000-watt size. They were so mounted that they could be placed on the floor and directed in any direction, horizontally or vertically. Similar, smaller "pans" were built to utilize tubular projection-type globes, while baby Solarspots were also useful.

In this lighting, most of which was arranged to duplicate the natural effects with higher, more photogenic intensities, there was still relatively little to stress the effect of depth. Obvious silhouetting of alternate planes could not be used, for the effect would not be natural.

Long, Low Ceiling

To stress the depth, we concentrated our lighting and wherever possible our composition on the long, low ceiling. This was light in color, and we accentuated it with a higher intensity of illumination. This gave a natural pattern of high-lighted area, in essentially straight lines receding from the camera to the extreme distance.

Without being obvious or unnatural, it gives a strong impression of depth. In addition, this lighting permitted us to dolly the camera as freely as the script required.

Working in the Waldorf's Starlight Roof we had a similar problem on a much greater scale. The room was slightly under seventy feet wide by nearly two hundred feet long—a good-sized area to light even in a studio set, designed and built for photography!

When it is not—when there is no possibility of fixing lamps overhead or along walls, and when all lamps, cables and accessories must be placed on compo-board so that nothing be marred—the problems of lighting can be appreciated. That the room is on the eighteenth floor detracts nothing from the task.

We found our problem further complicated by the limited working hours possible. We had a considerable number of scenes to make, but we could only work at hours when the place was not serving the public. Our working "day" began after the supper hour and had to end by mid-morning so that the room could be readied for luncheon. In other words we could work only from 2:30 or 3 a.m. to 10:30.

Therefore we charted all our shots beforehand with great care and accurately diagrammed the position of every lamp. Thus we could work faster and more effectively and if forced to stop in the middle of a sequence we could return the next morning and set up our lights with perfect confidence that we were duplicating the effects gained the previous night.

Minus Backlighting

Again it was necessary to light entirely from the floor and, with the exception of a few relatively close angles, to work entirely without backlighting. The same general principles again served excellently.

The Starlight Roof is a huge room. Along one long wall and the ends are large windows, while the other long wall is colonnaded.

Once again the "pan" lights proved invaluable. They could be concealed behind furniture and behind the columns, directing their rays upward. In this position they served much the same purpose as the overhead lights we would ordinarily play upon columns to create catchlights and give an illusion of roundness.

The necessary little highlights flecked the curved surfaces of the columns, regardless of whether the light causing them came from above or below. In the same way, the pans could be used to illuminate the wall behind the columns, much as we use "sky pans" to illuminate studio backings.

Wherever possible, of course, we used Solarspots and similar units to project light into the room from vantage-points out of camera-range. Again, too, we had the problem of lighting the ceiling. This was done largely from lamps concealed on the floor, and again aided in suggesting depth.

In several scenes here, as well as on other locations, we had the interesting problem of making day-effect shots close to the windows, while working actually in the middle of the night. Even working in hotel lobbies and other rooms on the lower floors of buildings, this was not easy.

Sixty-five Floors Up

The method used was to suspend a white backing on poles outside the window, and several feet away. This backing was strongly illuminated from within the building by powerful spotlamps shining through adjacent windows, but out of camera range. The effect was a successful day shot.

About the only scenes of this nature made actually in the daytime were those we made in the Rainbow Room at Radio City, where we found our only possible chance to photograph was on Sunday, when this exclusive club is not open. The Rainbow Room is on the sixty-fifth floor, and is an oval-shaped room on three sides of which are large windows commanding a view over the city.

When the weather was favorable we naturally took full advantage of these windows and the view they framed. When it was hazy, we took advantage of the Venetian blinds on the windows! Our lighting in this sequence followed the same general methods as those outlined, carefully duplicating, in higher intensities, the actual lighting of the room.

Adjoining the Rainbow Room is a cocktail lounge which proved one of the most difficult lighting tasks of the trip. It is of ultra-modernistic architecture, and as such is a creation of chromium plate, mirrors and plateglass panels.

One side of the room is entirely backed by panels of mirrors. The opposite side is filled with broad windows, between which are glass-inclosed plants, and

separated by ceiling-high panels of plateglass, two between each window, projecting at 45 degree angles. The ceiling itself is completely paneled with mirrors.

Reflections and Rereflections

With the exception of the floor, it seemed that every inch not devoted to plateglass or mirror was chromium plated metal. There is little if any exaggeration in saying that at every new set-up the first glance at the camera's ground glass revealed the reflections and rereflections of five or ten lamps.

While the room itself was lit by modifications of the same schemes used on the other sequences mentioned, the reflection problems were solved largely by patience and perspiration. We are prone to regard lighting at any time as a highly exact science: here was an occasion when the lamps were positioned—literally—to the inch.

What reflections could not be eliminated in this manner we eliminated by applying common Scotch tape to the reflecting surface. This proved more effective and more easily removed than the more common use of putty, oil-sprays and the like.

An interesting phase of our problem there in the Rainbow Room was the fact that while we were working on the sixty-fifth floor our nearest power outlet was, if I recall correctly, on the sixtieth floor. Engineer Bourciet of Radio City cooperated splendidly with us, not only in providing power and stringing the necessarily long power cables, but in setting aside special freight elevators to transport our equipment and providing storage space for it so that we would not lose time by having to bring it in and remove it from the building during our brief working time.

Will Extend Methods

While the methods outlined enabled us to achieve success under unusual and extremely difficult circumstances, I feel that this is only a starting point for developments which can be of the greatest value to the industry.

In the future I am confident these methods can and will be extended, both by added experience and by the use of the new faster films, to make it possible to photograph authentic interior scenes of famous places on a scale heretofore impossible.

The dramatic value of such locales is well realized. So, too, is the problem of duplicating them in sets which, to be authentic, may be prohibitively costly or prohibitively large, necessitating that the story be perhaps weakened by the necessity of substituting other locales or even eliminating those scenes from the script.

It seems to me that this technique can make it possible to use more of these actual locales, not only extending the range of cinematography but helping meet the demand for better pictures by making them more vigorous and more convincing.

Photographic Honors Fall to Daniels

(Continued from Page 366)

ers. With the same company, Leo McCarey, who recently directed "The Awful Truth," was the prop boy.

Together they made brisk progress. On a Bert Roach comedy Daniels received his first full-fledged cameraman assignment and McCarey was made an assistant director.

When a chance came to go with Erich Von Stroheim Daniels accepted a temporary demotion, again becoming a second cameraman to gain experience on more important productions. He was with Von Stroheim for thirteen months during the filming of "Foolish Wives."

At the time Thalberg was the "boy wonder" of the industry, general manager of Universal at nineteen. He was filled with startling new entertainment ideas and was eager to apply them. Daniels was making innovations in photography, developing new lighting ideas and camera technique.

This drew them together. They began their association when Thalberg made Daniels the cameraman on "The Merry-Go-Round," his first real test. He made good. When Thalberg moved to Metro-Goldwyn-Mayer in 1924 Daniels went with him.

Steps Down to Step Up

Once more a step down was a step up for Daniels. He became a second cameraman to Oliver Marsh on "The Merry Widow," starring Mae Murray and John Gilbert. This assured his success.

A few months later Daniels was introduced to a shy Swedish girl, Greta Gustafsson, who was to become famous as Greta Garbo. He made some of her first tests. She liked them. So did Monta Bell, the director. Daniels was behind the camera for Garbo's first Hollywood picture, "The Torrent." He has photographed all of her films since, with the single exception of "Conquest," due to illness.

Soon after he started work with Garbo Daniels was called to Thalberg's office to meet another promising newcomer, a Canadian girl whose name was Norma Shearer. He photographed one of the first pictures designed to build her to stardom, "The Actress." He has since been with her on every picture but two.

And so it was the natural thing he should be assigned to photograph "Marie Antoinette," the picture that marked the resumption of Miss Shearer's brilliant career. Always a keen student, he has never ceased to experiment.

Works Months Ahead

"Fine photography as well as fine pictures," said Daniels as he began work on the Shearer picture, "result from careful preparation. Advance work has become increasingly important to obtain the best results. 'Marie Antoinette' offered a problem, because candlelight was the key lighting of the more important scenes."

To assure uniformity in lighting,

Daniels worked months ahead. He originated a system of lighting charts, testing each of the ninety-eight sets in advance and carefully noting the placing of each light. On one set, the ballroom in the Palace at Versailles, Daniels used 302 baby spotlights, a record number, giving the effect of thousands of flickering candles. Then he viewed the tests with Art Director Cedric Gibbons, rearranged his lights to obtain the effects he sought and had a definite guide to go by when the scenes were actually filmed.

Daniels' crew, which has been with him for years, operates with almost unbelievable precision. His second, or operating cameraman, was Al Lane. His assistant was William Riley.

With Lane, Daniels worked out a technique of always having his camera focused on the point of interest, which

proves again that "the hand is quicker than the eye."

"For example," said Daniels, "we are making a close-up of Miss Shearer as she sits in the royal box at the Paris opera. When she turns to address Joseph Schildkraut, the focus is changed in a flash and centers on Schildkraut, then turns back to her."

"Similarly, if Miss Shearer walks to a window and looks out, the focus switches to the object she is watching. This changing of focus is accomplished in a split second. Its object is to keep the attention of the audience centered on the point of action."

After 21 years as a cameraman, Daniels believes that the future of motion picture photography will produce greater miracles.

"We are just beginning to learn a few of its secrets," he commented.

Los Angeles Cinema Club

The Los Angeles Cinema Club met in the auditorium of the Bell and Howell Company, 716 North La Brea Avenue, Hollywood, Tuesday, Aug. 2.

The letter from the Cross Roads of the World was read. The Club's trip to the Harbor was discussed.

Ed. Pyle gave his report on club group camera insurance. It was voted the report be accepted and the group camera insurance plan adopted. It was then voted the club property be insured.

Messrs. Walker, Memory, Champion, Chapman and Lucas agreed to bring to the September meeting the first films they had taken.

President Gram introduced Mr. Spille-naar, the speaker of the evening. He discussed the difference between professional and amateur motion pictures. His talk was illustrated with two films.

Church Anderson reviewed articles of interest in the current movie magazines. Two rolls of film awarded to members for experimental studies were given to Dr. Freebairn and Mr. Parker. Dr. Gerstenkorn's film on China was viewed.

RICHARD STITH, Secretary.

Cinema Club of San Francisco

The August meeting was held on the 16th at 26 O'Farrell street. Meetings for the remainder of the year will be held at the same address on the third Tuesday of each month.

Roland Calder, photographer of note and experience, talked on "Composition." His remarks were illustrated with colored slides. Also he constructively criticized Kodachrome slides submitted by members.

R. S. Merville, 8mm. gadgeteer, gave a demonstration in titling.

The vacation contest is under way and promises to result in a large entry list. Judging will be at the September meeting.

E. G. PETHERICK, President.

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Filming Unusual Travelogue with Rare Ocean Background

(Continued from Page 384)

and street scenes and then away again into another sea sequence as we steamed toward Long Beach. As we passed the Gulf of Tehuantepec the worst storm I ever experienced was in the brewing.

Water Breaks Over Bow

As the tempest gained in violence, shots of the bow of the ship taken from the signal bridge showed the water breaking over in everincreasing torrents, and a view of the Indianapolis caught it plunging and bucking through the storm.

As a climax to these scenes, telephoto shots taken of the bow of my ship were completely obliterated by walls of spray as each successive wave rolled over. Shortly thereafter I proceeded to the security of my bunk.

Several telephoto shots of schools of leaping fish and close-ups of several porpoise taken through a port hole preceded our arrival at Long Beach. I recorded the ride by small boat from ship to shore as we passed breakwater, ships and motor launches on our way.

Disembarking at the dock I photographed other boats as they discharged passengers and the welcoming group waiting on the dock which concluded my cruise to South America.

I arrived home with thirteen rolls of film in my handbag and a ten day furlough in which to cut and splice them. After editing my footage, I found that innumerable titles would be required throughout and decided they should be in narrative form. To this end, a movie party was filmed with myself in the role of narrator to carry out the idea.

The first reel opens with me arriving at home from the cruise. After greetings are exchanged a close-up shows me delving into my handbag and extracting several rolls of film which I show to Mrs. Teorey. A title cut in at this point reads in effect that the pictures are those taken on the voyage and that it would be nice to show them to our friends in the near future.

Slight Illusion

A fadeout followed by a fadein of our friends entering continues the idea. A long shot next shows them seated about my projector as I chat to them while engaged in threading a reel of film. A couple of titles cut in during this procedure explain the nature of the films and a few statistics of the cruise.

A close-up of the projector in action is next seen with a cut to the opening title, which was photographed with the projector arranged in the left foreground to show only full and take-up reels in action, creating a slight illusion that it was projected.

A title with the same arrangement began each additional reel, and upon conclusion of the last one an appreciative audience is disclosed applauding as the performance ends.

To enhance further the narrative titles, which were in "quotes," I included a couple of low key shots of myself in each reel indicating my position at the projector while I moved my lips in conversation.

The finished pictures emphasize the fact that the greater portion of our time was spent on the water. Each steaming sequence shows from one to three shots vignettied by an open port and taken from various angles. Our sister ship, passing steamers, islands, clouds and the ocean in various stages of unrest were recorded on film in this manner.

Many shots were taken from vantage points above decks and each included a portion of a rail, small boat, mast or rigging in order to establish my camera position.

Two Filters Only

While on these travels I employed two filters. One, a red (23A) was effective where heavy seas required a storm effect and for obtaining evening and sunset scenes. Cloud formations taken with the aid of this filter through port holes appeared very striking.

My other filter, a yellow-green (Aero 2) came in useful for cloud effects, and while it brought them out very effec-

tively it didn't darken the sky and water as in the case of the former.

Lighting conditions on the cruise were constantly changing as we progressed into different latitudes, and a careful check on this was maintained at all times and especially at sea, where the added reflections of masses of water made estimation more difficult.

Nearly 17,000 miles were covered by my photographic record, which was completed in slightly more than five weeks. Of course our steaming speed was far above normal, as we ran at about 25 knots an hour nearly all of the trip.

As previously stated, the time spent in most ports was just a matter of hours, thus limiting photographic work ashore to subjects found at a short distance from the docks, and while many interesting places were omitted for that reason yet sufficient shots were obtained at each port to complete a satisfactory record of the cruise.

Coupling the sea and port sequences in the manner outlined gave me continuity throughout my reels, while my movie party together with the narration flashed by my titles gave me a 600-foot story in pictures that always will be refreshing to me and I hope a source of entertainment to my friends.

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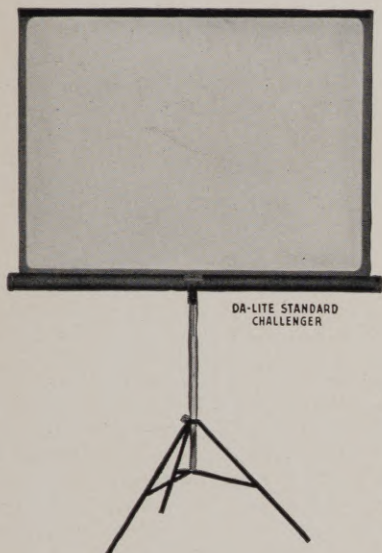
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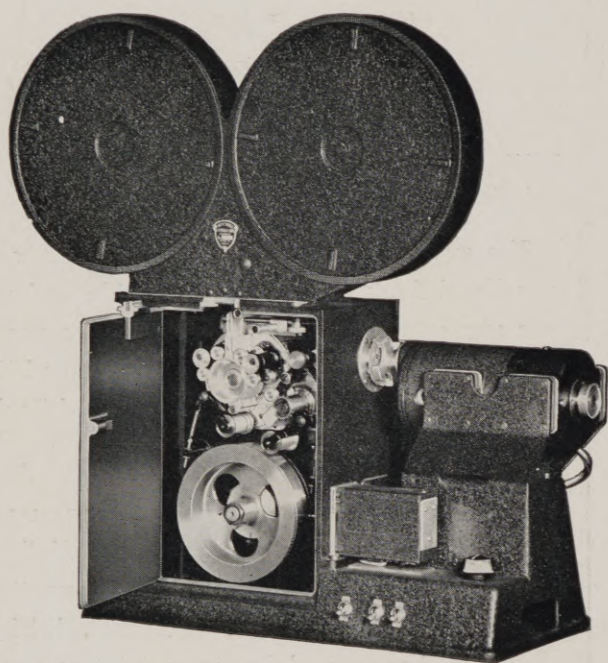
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